GB230
1856
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ARITHMETIC,

BY

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Bugthorpe School

1856



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Simple

INTEREST.

Examples.

What is the interest of £375 for a year, at £5 per cent per annum ---------- £ 18 .. 15 Ans

£
375
5
18 | 15
20
15 | 00

What is the interest of £945 . 10 for a year at £4 per cent per annum ---------- £ s d 37 .. 16 .. 4 3/4

£. s.
945 .. 10
4
37 | 82 .. 0
20
16 | 40
12
4 | 80
4
3 | 20

What is the interest of £ 547 .. 15 at £5 per cent per annum for 3 years

£.	S.
547	15
	5
27	38 .. 15
	20
7	775
	12
9	0 0

D.	S.	d.
27	7	9
		3
82	3	3

Answ

What is the interest of £ 254 .. 17 .. 6 for 5 years at 4 per cent per annum

£	S	d	
10	3	10	2
		5	
50	19	5	3/4

£	S	d
254	17	6
		4
10	19	11 .. 0
		20
3	79	0
		12
10	8	0
		4
3	2	0

COMMISSION

My correspondent informs me that he has bought goods to the amount of £754..16 on my account what is his commission at £2½ per cent

£.	S.	D.
½=½) 754	.. 16	.. 0
		2
15	09	.. 12 .. 0
3	7	.. 8 .. 0
18	8 7	.. 0 .. 0
	20	
17	40	
	12	
4	80	
	4	
3	21	

£. S. d.
18 .. 17 .. 4 3/4 Answ

At £124⅝ per cent what is the purchase of £758

17 : 10 India stock ----------

	£.	S.	d.
⅜	758	17	10
			12
	9116	14	0
			2
	18213	8	0
	474	6	1¾
	18687	14	1¾

20
17 | 54
12
6 | 49
4
199

£.	S.	d.
758	17	10
1186	17	6¼
945	15	4¼

× 2 + ⅜ = 24⅝

If Singley a broker to buy goods for me to the amount of £2575 17 6 what is the brokerage at 4 per cent ...

	£.	S.	d.	
4	2575	17	6	
	5	15	3	6

20
3 | 03
12
6 | 42
4
16 5

£. S. d.
5 . 3 . 6½ brok

What is the broker's charge on a sale amounting to

£765 5s 11d at 5s 6 per cent

	£	s.	d.
	765	5	11
	17	6	5½
	17	11	1¾
19	53	17	1¼
	21		
10	17		
	12		
9	31		
	4		
12	5		

£ s. d.
19 10 9¼

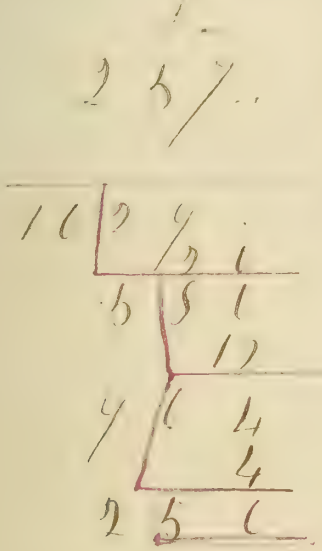
What is the brokerage on goods sold for £975 6s 4

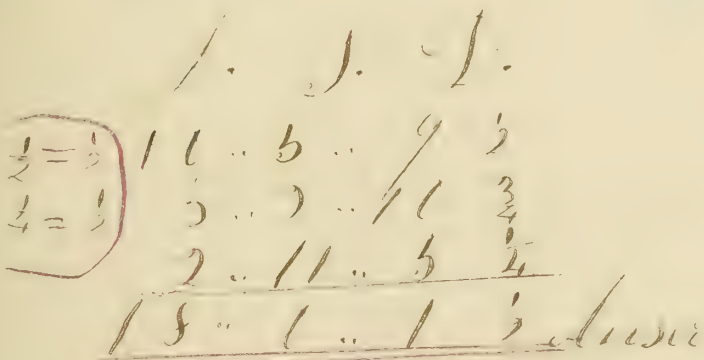
at 5s 6 per cent

	£	s.	d.
	975	6	4
2	4	3	16 7
	4	3	15 3¾
	2	4	7 7¾
3	6	19	1½
	21		
3	39		
	12		
4	7	4	
	4		
29	5		

What is the interest of £ 25. 5. 1 at 4 £ . . 4

per annum for a year and three quarters.....







What is the interest of £ 1179 . 5 for 5 ¼ years at £ 5 per cent per annum

£.	S.
1179	5
	5
13 9 6	5
26	
19 25	
12	
311	

£	S.	£
2 23	19	3
		5
119	16	3
5	19	0 ¾
125	16	0 ¾

What is the amount of £ 5 / 6 .. 9 / in / 4 years

2 + ½ % and for amount

£. S. D.

5 = ½ 5 / 6 .. 2 .. 7

1 1

2 3 6 1 4 .. 16 .. 1 4

2 5 5 .. 1 .. 3 ½

2 5 9 2 .. 11 .. 7 ½

2 6

1 8 5 1

1 1

6 1 9

1 4

7 8

£. S. D.

½ = 2 2 5 .. 18 .. 6

7

1 5 1 .. 9 .. 6

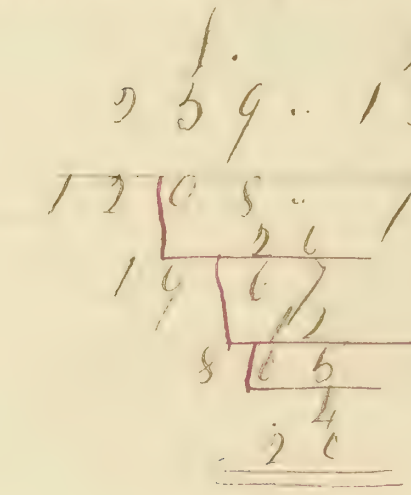
6 6 .. 9 .. 7 ½

1 8 7 .. 19 .. 1 ½

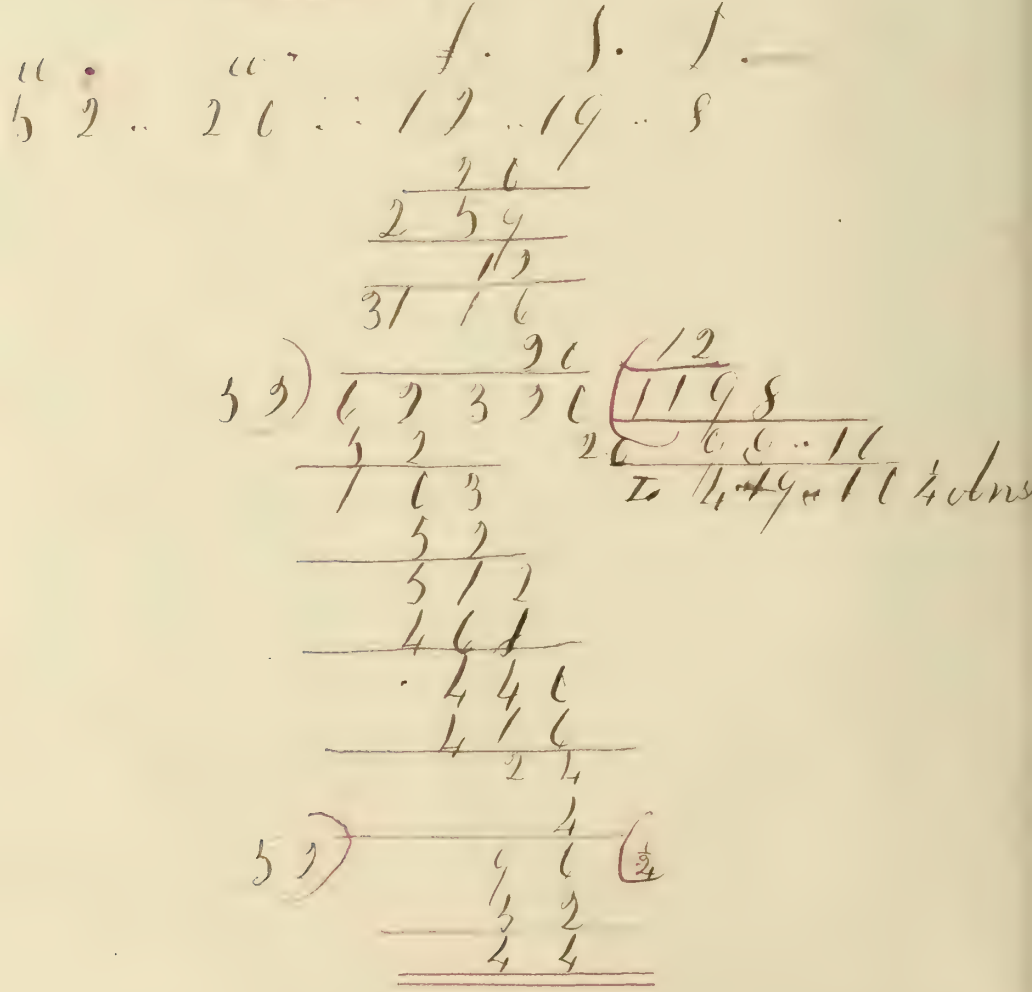
5 7 6 .. 2 .. 7

7 6 4 .. 1 .. 5 ½ Ans

What is the interest of £259..13..5 for 26 weeks at 5% per ann. or annum



" " £. S. £.
5 2 .. 2 6 :: 1 9 .. 1 9 .. 8



What is the interest of £ 9796 . 1 . 4 at £4, ½ per cent per annum for 3 years 154 days.....

£. S. d.

½ = 2) 9 7 9 6 . 1 . 4

4

1 0 9 0 4 . 5 . 4

1 3 6 3 . 0 . ½

1 2 2 6 7 . 6 . 0

1 0

1 3 4 6

1 2

5 5 9

4

2 0 8

d. d. £. S. d.

365 : 154 :: 122 . 13 . 5 . ½

2 0

2 4 5 3

1 2

2 9 4 4 1

4

1 1 7 7 6 6

1 5 4

4 7 1 1 6 4

£. S. d.

122 . 13 . 5 ½

3

368 . 0 . 4 ½

3 1 . 15 . 1 ¼

419 . 15 . 6 ¼

5 8 8 8 3 0

1 1 7 7 6 6

365) 1 8 1 3 5 9 6 4 (4 9 6 8 7

1 4 6 0

3 5 3 3

3 2 8 5

2 5 0 9

12) 1 2 4 2 1 ¾

20) 1 0 3 5 . 1 ¾

5 1 . 15 . 1 ¾

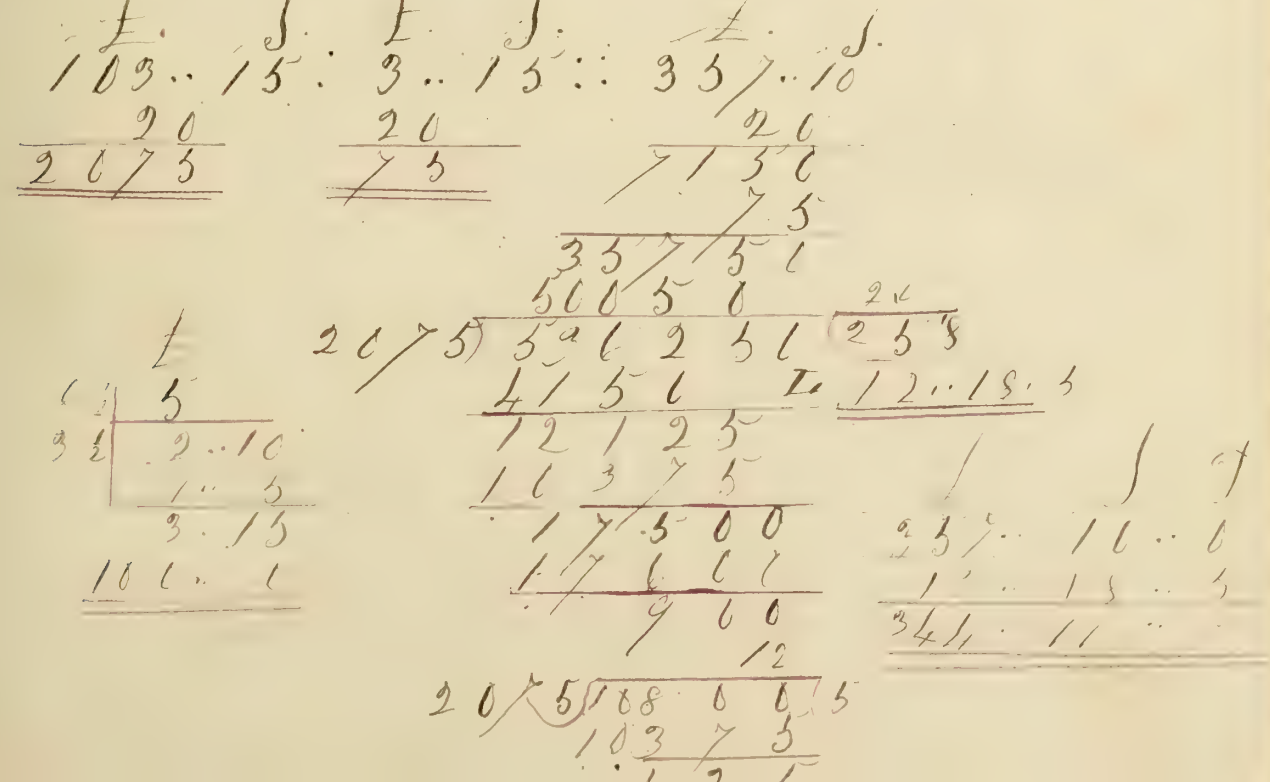
What principal Money put to interest for 9 years will amount to £734..8 at per cent per annum...

£. £. £. s.
136 :: 100 :: 734..8

21
11688
12
140256
1006 12
136)11625600(119600
136 20 10800
412 £540..0 Ans
272
1360
1224
8160
8160
00

How much shall I receive in present payment for a debt

of £35 7s. 10d due 9 months since allowing discount at £5 per cent per



Required the present worth of £875..5..6 due in 6 months at £4½ per cent per annum.....

£. S. D. £. S. D. £. S. D.

61..17..6 : 1..17..6 :: 875..5..6

20 20 20

1037 37 17505

12 12 12

24450 450 210066

450

105033600

84026 4 12

24450) 9452977 (3866

73350 20) 322..2

211797 1..16..2½

196600

16197 0

14677 1 1..5..1

152700 876..3..6

146771 16..9..2½

6000 859..3..3½

4

24450) 24000 (¼

24453

550

£ 1

4 : 4..11

1 : 1..11

1..2..1

1..17..6

101..17..6

How much ready money ought I to receive for a note

of £75 due in 15 months at 5 per cent discount?

£	S.	£	S.	£
106	5	6	5	75
20		20		20
2125		125		1511
12		12		12
25500		1500		18011

1500

90010001

18000

25500) 27111110 (105

25501

1500111

127506

2251111

2041110

1111

4

25500) 511111 (3/4

1631110

1110

1. 3 1/4

1.5

6.5

100.0

106.5

20 | 8.8.0

1.8.2 1/2

3.0.1

1.8.2 3/4

11.9 1/4

What will be the present worth of £150 payable at 3 instalments of four months: i.e one third at 4 months one third at 8 months, and one third at 12 months, discounting at £5 per cent per annum.....

£ s. d. £

101 : 134 : 100 :: 50

20 20 20

3033 3111 1111

12 12 12

36411 34111 13311

24000

364111111

24000 | 364111111 | 12

15166 | 30333

20 | 98·3...

4 | 4...

15·166...

1...12...

121·1...1

1...13...4

3150 | 50

150

24400

44011

34410

176110

173210

50011

73200

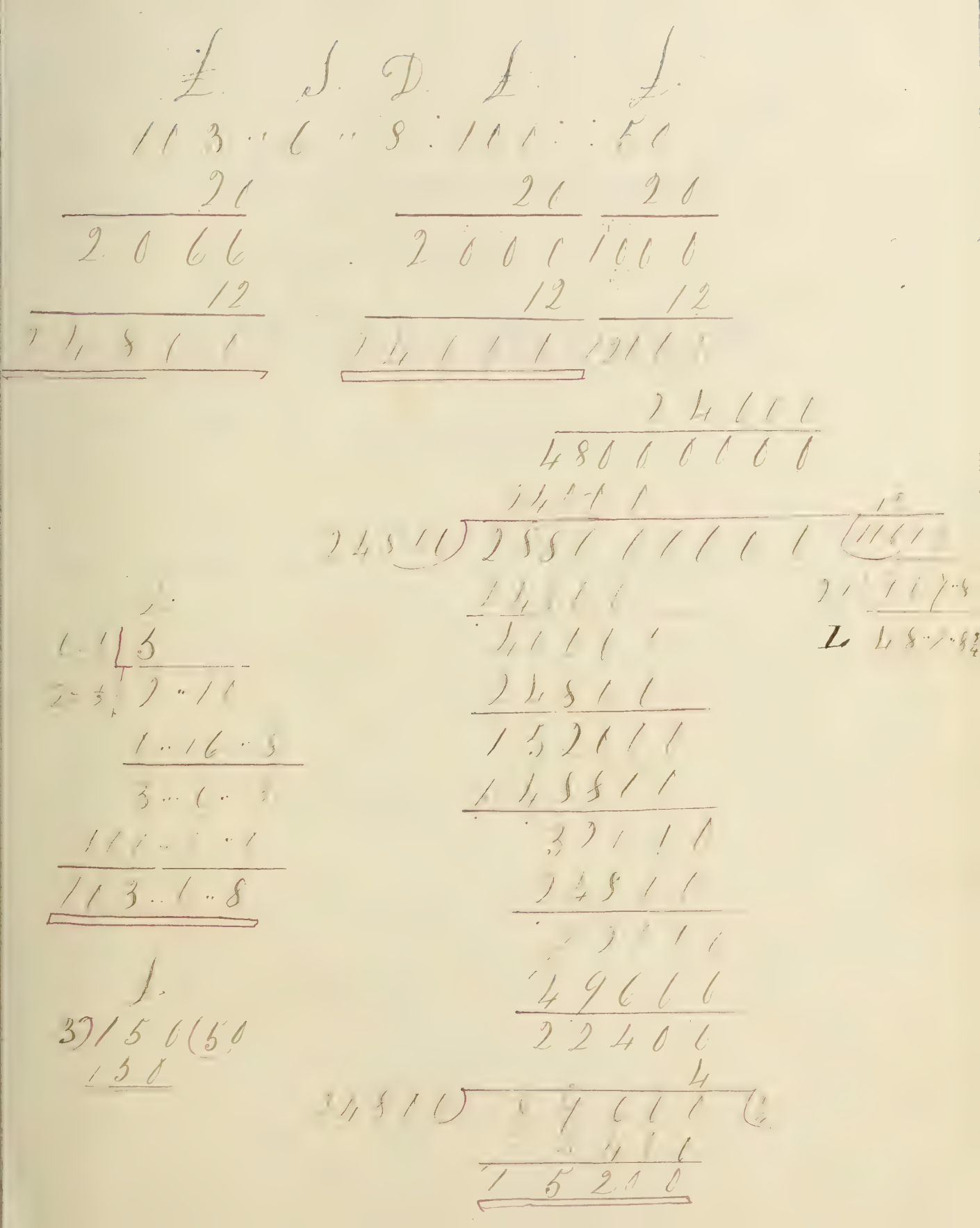
6800

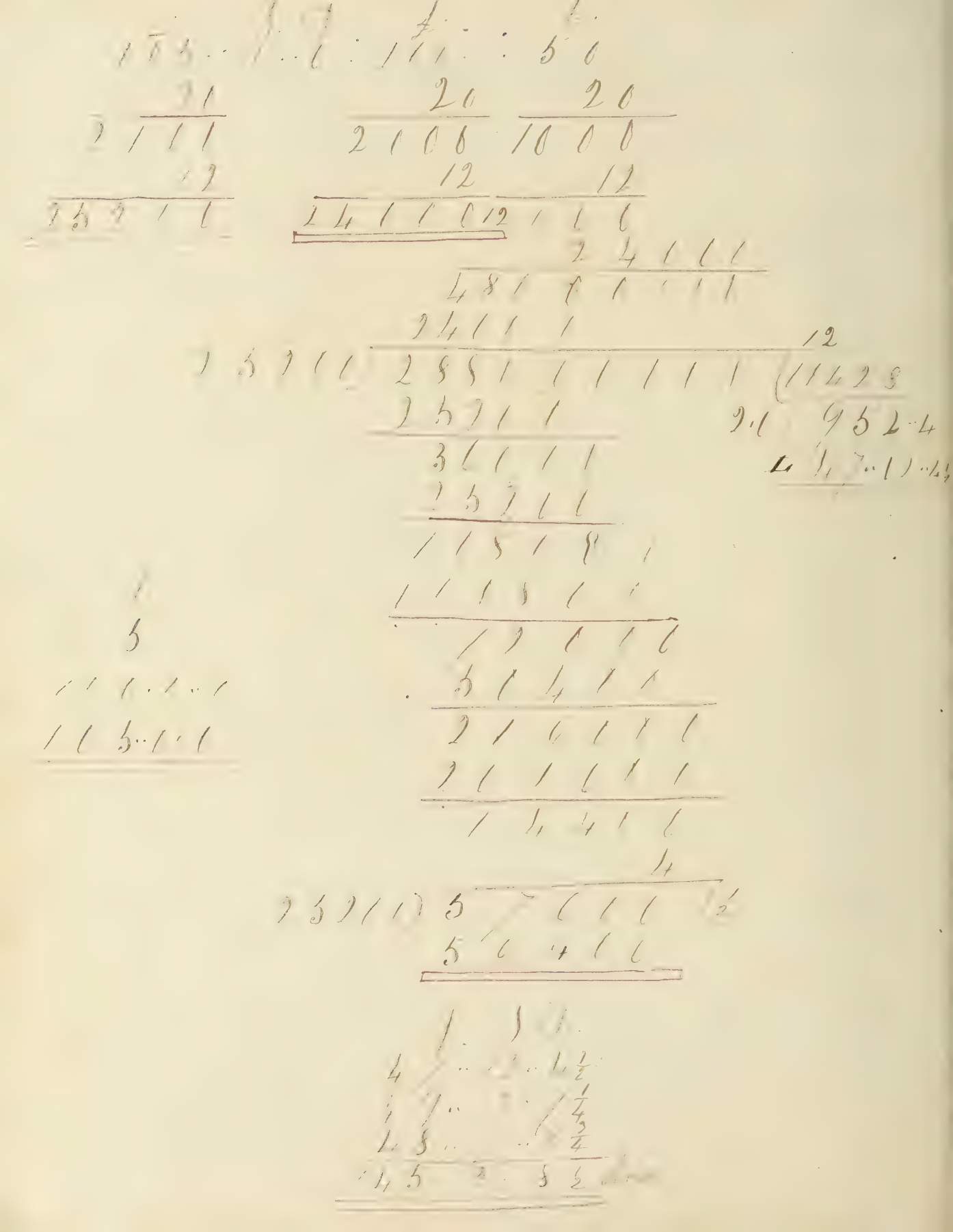
4

3·41052, 2604

24400

2811



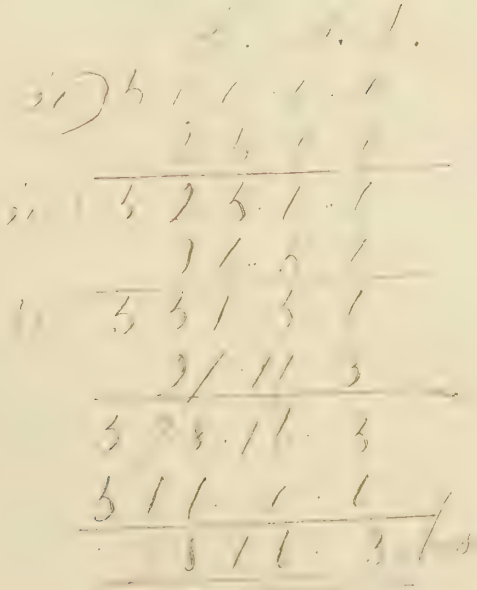


Compound

INTEREST.

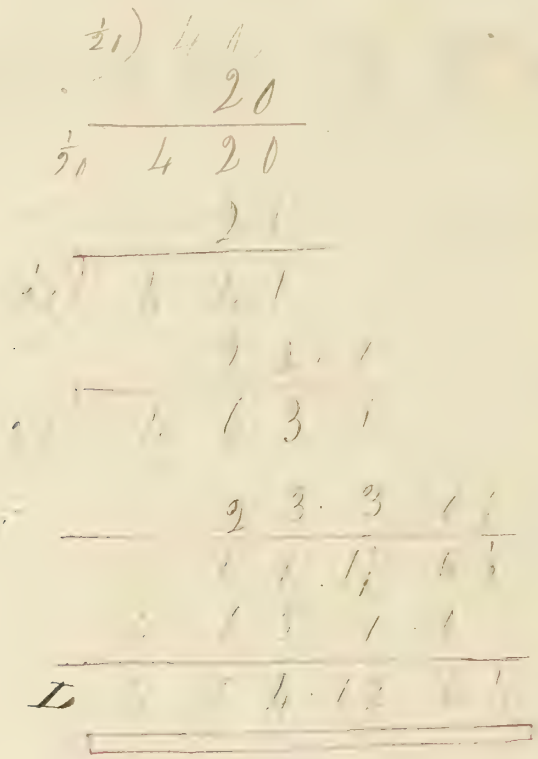
What is the amount of [illegible] for

3 years at 4 per cent



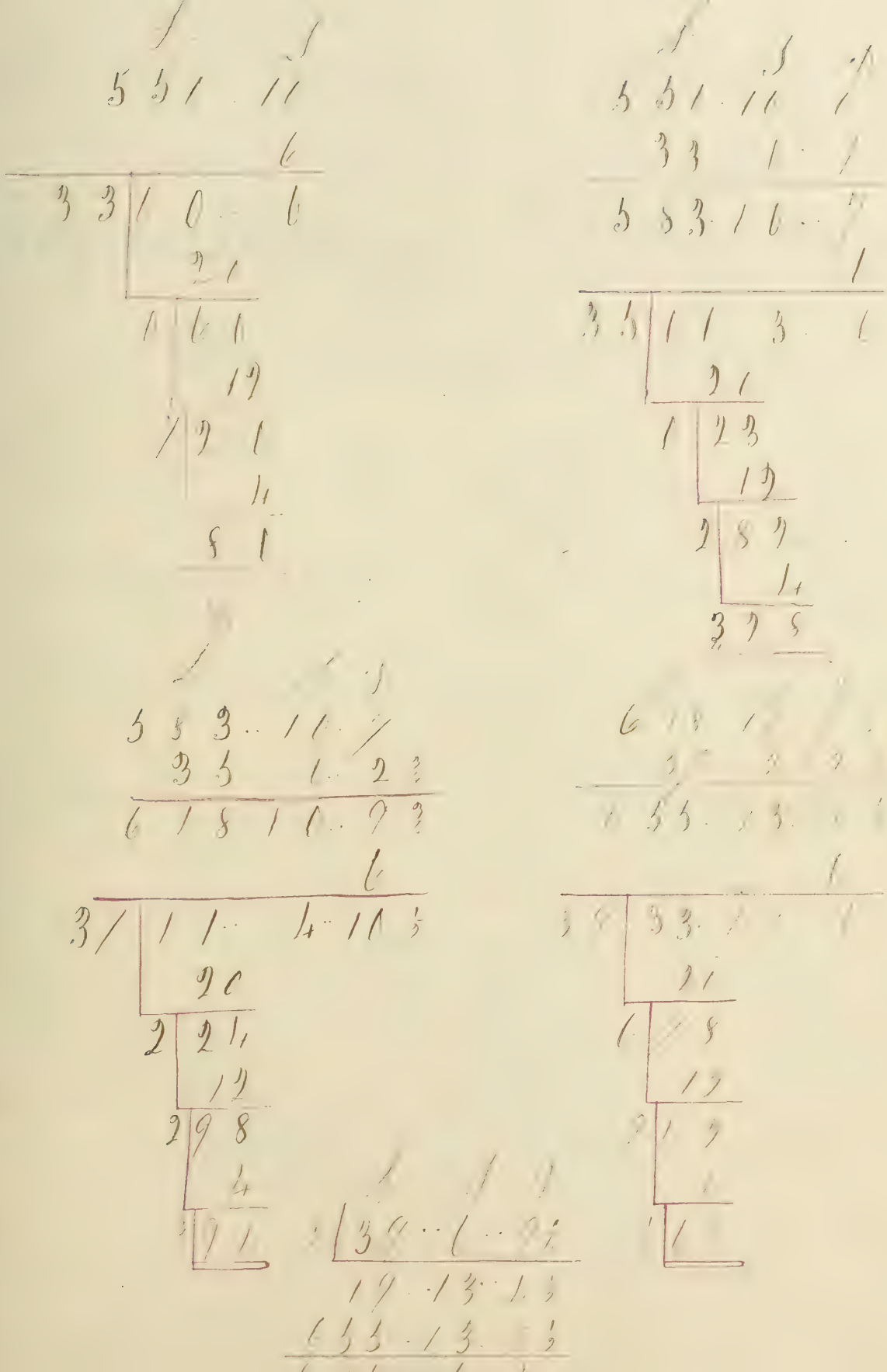
What is the amount of £ [illegible] in [illegible] years at [illegible]

cent per annum compound interest

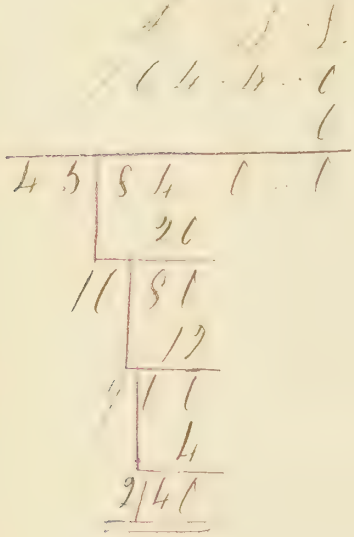


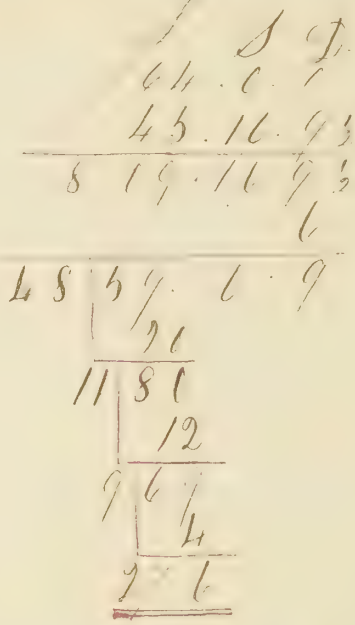
What is the amount of £ 3 3 1 11 s 1 3½ years at

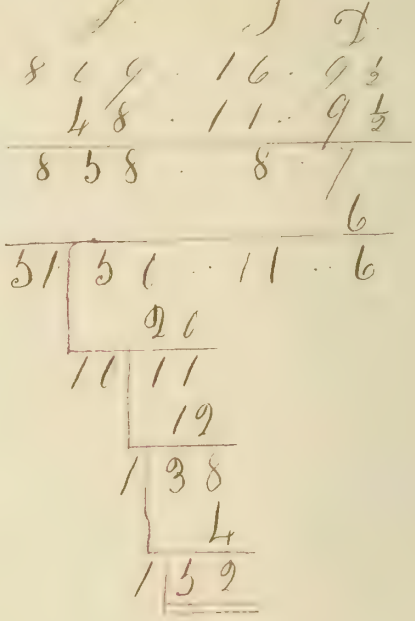
[illegible] cent per annum compound interest

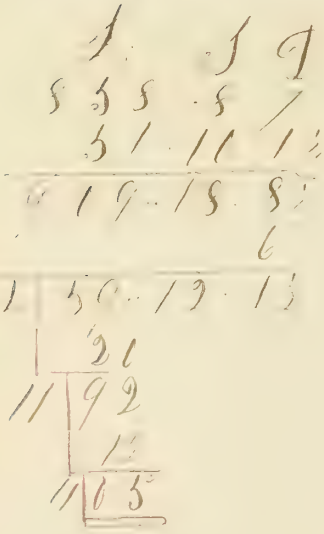


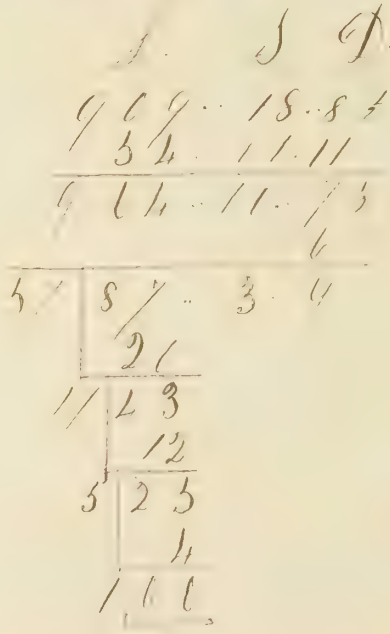
What is the compound interest of £ 764 for 4 years
and 9 months at 4 per cent per annum

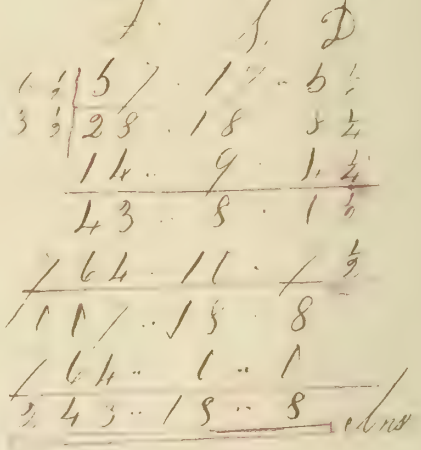












Equation of Payments.

Owes £800 whereof £200 is to be paid
at 3 months £100 at 4 months £300 at 5 months
and £200 at 6 months but they agree that the
whole shall be paid at once what is the equated time

£	m	m
200	× 3	= 600
100	× 4	= 400
300	× 5	= 1500
200	× 6	= 1200
800	8.00	3700

[illegible] = 4 m 17½ days

A debt of £360 was to have been paid as follows viz £120 at 2 months £200 4 months and the rest at 5 months but the parties have agreed to have it paid at once mean time what is that time

£	m	m
120	× 2 =	240
200	× 4 =	800
40	× 5 =	200
360.1	6)	124.0
	6)	20 " 4

Months 3 " 12 4/9 Days

£ 120 " 2 " 12 4/9

A Merchant bought goods to the value of £800 to pay £100 at the end of 3 months £150 at the end of 6 months and £250 at the 12 months but it was afterwards agreed to discharge the debt at one payment required the time

£		m		m
100	x	3	=	300
150	x	6	=	900
250	x	12	=	3000
500	x	5.00		42.00

Months 8 " 11 1/3 Days

Ans" Mon 8 " days 11 1/3

4

A is indebted to B a certain sum which is to be paid at 6 different payments that is ¼ at 2 months ⅛ 3 months ⅛ at 4 months ¼ 5 months ¼ at 6 months and the rest at 1 months but they mutually agree that the whole shall be paid at one equated time what is that time

£

s		m		
¼ =	2	×	2	= 4
⅛ =	1	×	3	= 3
⅛ =	1	×	4	= 4
¼ =	2	×	5	= 10
⅛ =	1	×	6	= 6
	1	×	7	= 7
	8		8	) 34
				4 ¼

Answer 4 ¼

A is indebted to B £ 120 wherof ½ is to be paid

at 3 months & at 6 months and the rest at 9 months

what is the equated time of the whole payment

£

½ 120 m

60 × 3 = 180

30 × 6 = 180

30 × 9 = 270

120 12) 630

5 ¼ months

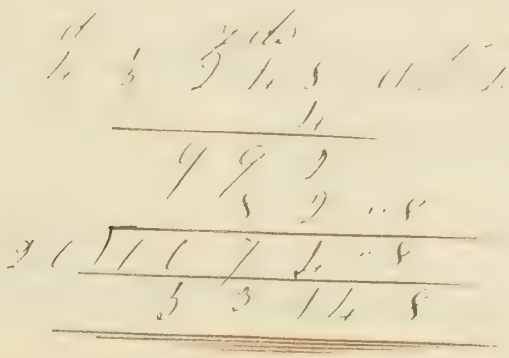
Anon

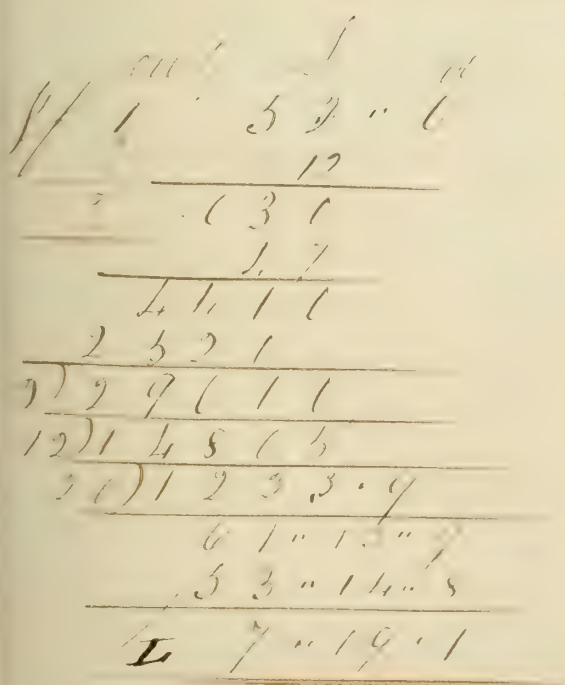
Ans 5 ¼

B. HIRER

How much lemonade can I have in
lemon juice and 2 qts of chocolate at 4 shillings

c I exchanges with B 2 3½ cwt of cheese worth 3 2 s 6 d
her cwt for 5 pieces of cloth containing 245 yards at 4 s
4 d per yard the difference to be paid in money
Who receives the balance and how much





How much ginger at 15 ¼ d per ℔ must be

exchanged for 3½ ℔ of pepper at 13½ d per ℔

£ s d
3 . 1 . 1 ½
3
3 1 ½
6 1
3 . 11 ¼

£ s d
1 . 3 ½
12
13
4
61

£ s d
1 . 3 . 11 ¼
12
47
4
61) 191 (3 . 1
183
8
16
36
8
61) 476 (11
61
335
61

£ s d
Cinn. 3 . 1 . 3

How many dozen of candles at 5s 2d per dozen must be trained for 3 cwt 2 qrs 16 lb of tallow at 37s 4d per cwt

		£	s	d
4	3	1	1	4
				3
11		5	12	0
14	½		18	8
2	⅓		4	8
				8
		£6	16	0

If 3 cwt 2 qrs : 1 doz :: £6 16s 0d

12 qrs

26

136

12 doz lb

62 1632 | 26 3 4 ans

124

392

372

20

12

62 2240 | 36

186

54

62

A exchanges with B 608 yards of cloth worth
14 s per yard for 85 cwt 2 qrs 24 lb of lead wax
and £ 125..12 in cash What was the wax charged per

Yds s
608 at 14
14
2432
608
8512
425..12
125..12
300..0

If cwt qr lb £ lb
85.. 2.. 24 : 300 :: 112
4 112
342 600
28 300
2760 300
684 33600 £ s
9600 28800 3.. 10.. 1 ans.
4800
20
9600 96000 10 s
96000
.....

A Lady with 320 dozen of candles at 4s 6d per dozen for cotton at 5d per lb and 1/2 an ash What was the quantity of cotton

d ½ Doz sd
6 320 at 4.6

4
1280
160
20)1440
72.0
360
420

d £ £ £
12 : 1 :: 42
2 6
840
12
8)10080
28 (1)1260
4)180
45
lbs 11. 1qr. Ans

How much cotton at 12d per ℔ must be given for 114 ℔ of tobacco at 6d per ℔

d ℔ d
6 ½ 114 at 6
20) 57
£ 2 . 17

If 12 d . ℔ . £ s
1 . 2 . 1 . 2 . 17
12 20
14 57
19
14) 684
2 9 7 - 3
4 8 9 ℔

Ans. 489 ℔

PROFIT

and

LOSS.

If 5 lb of tobacco cost 16d and be sold fo

ed what is the gain per cent

2 16
1 6
1,

16 : 4 :: 1 6

3 6
2 1 6 0
12
2 4 0 0 1
4
16 { 4 9 6 0 0 0
4 2 4 0 0 0
12 6 0 0 0
20 5 0 0
£ 2 0 0 Anſ.

If a piece of cloth be sold for £560 gaining £12 per cent what is the prime cost

£ £ £
As 112 : 100 :: 560

100
112) 56000 (£500
560
000

Ans: £500

If a yard of cloth cost 13s 4d and a hat a yard

for 10s what is the yard worth

£	s	d
	10	0
	13	4
	2	8

£	s	d
	13	4
	12	
	10	0

£	s	d
	2	8
	12	
	32	

£	s	d
	100	
	20	
	2000	
	12	
	24000	
	32	
	48000	
	2000	
	50000	
	14000	
	12480	
	2040	
	20	

Ans 20 £

If 1 lb of iron cost 2/s 6d what must I ask

to sold for to gain £15 per cent

£	£	s d
1 1 0 0	1 1 5	2 7 6
20	3 3 0	12
2 2 0 0 0	3 4 5 0	3 3 0
12	3 4 5	4
2 4 0 0 0	3 7 9 5 0	1. 11. 1½
	2 4 0 0 0	
	1 3 9 5 0	

20

24000 | 27900 | 11s

26400

1500

12

24000 | 1500 | 1d

10800

1200

4

24000 | 4500 | ½

4500

0

If 375 yards of cloth be sold for £490
at £9 for one piece what did it cost the yard

If 150 : 100 :: £1 : £90

100

120 £90.0.0

£40.0.0

If 375 : 1,000 :: £1 : £2.13.4

20

8100

12 12

375) 9000 (24 144

750 24) 216.0 (£9.0.0

2250

5000

3750

1250

4

375) 5000 (13 1/4

3750

1250

375

Sold a Lot of Sheep for £ 6. 15 at the rate of

£ 23 per cent profit What would have been the

gain per cent if the Sheep had been sold for £ 8 per cent

£ s	£	£
6 15	125	8
20	160	20
135	7500	160

135) 125 (0 0 0 0 (£ s d
135 148 . 2 . 11 ½ - 2/3
650 100 . 0 . 0
540 48 . 2 . 11 ½ 2/3 . 1.s.
1100
1080
20

135) 20 (0 0 4 (2s
270
130

135) 12 (0 0 1 5 6 0 (11d
135
210
135
75
4

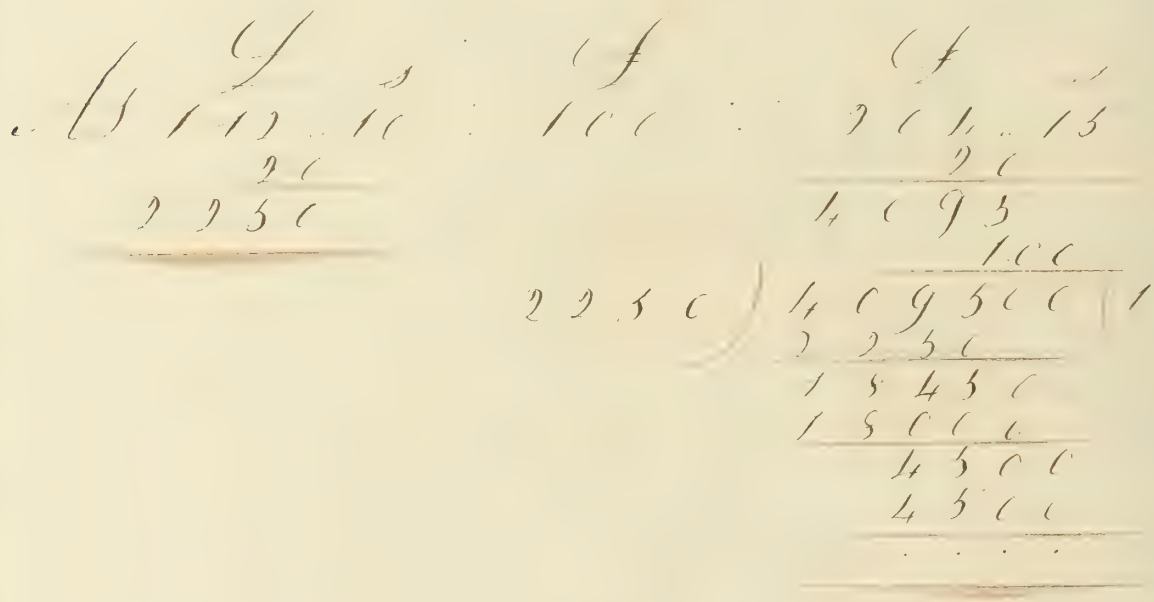
135) 3 0 0 (½
270
30
135

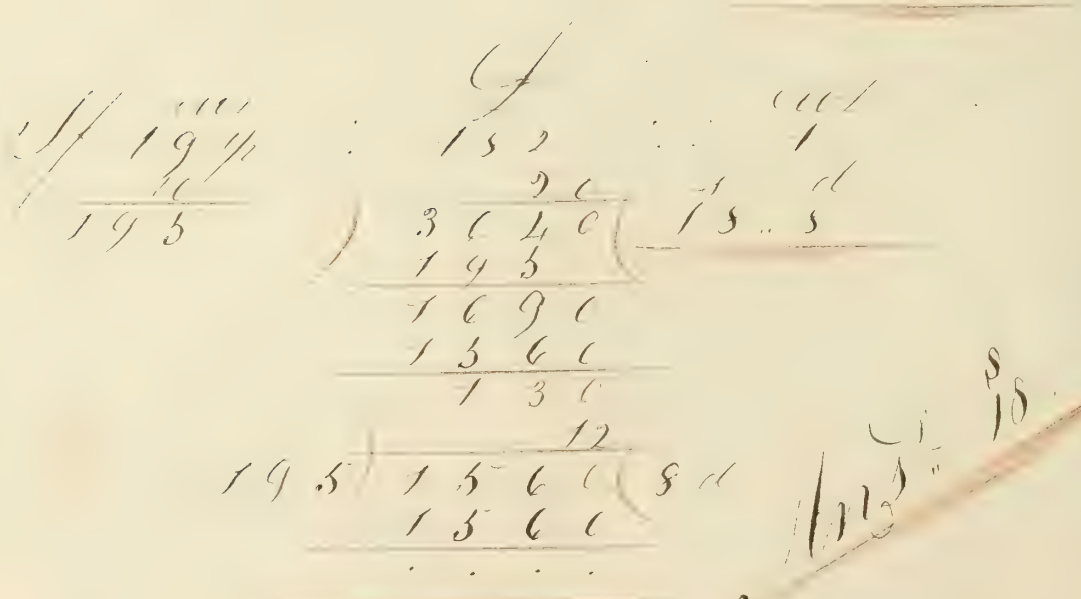
If 90 lbs of timber cost 7 £ 10 s what will 450 lbs cost at the same rate

As £ : £ :: £
100 : 115 :: 60
60
100) 6900
£ 69 16 0

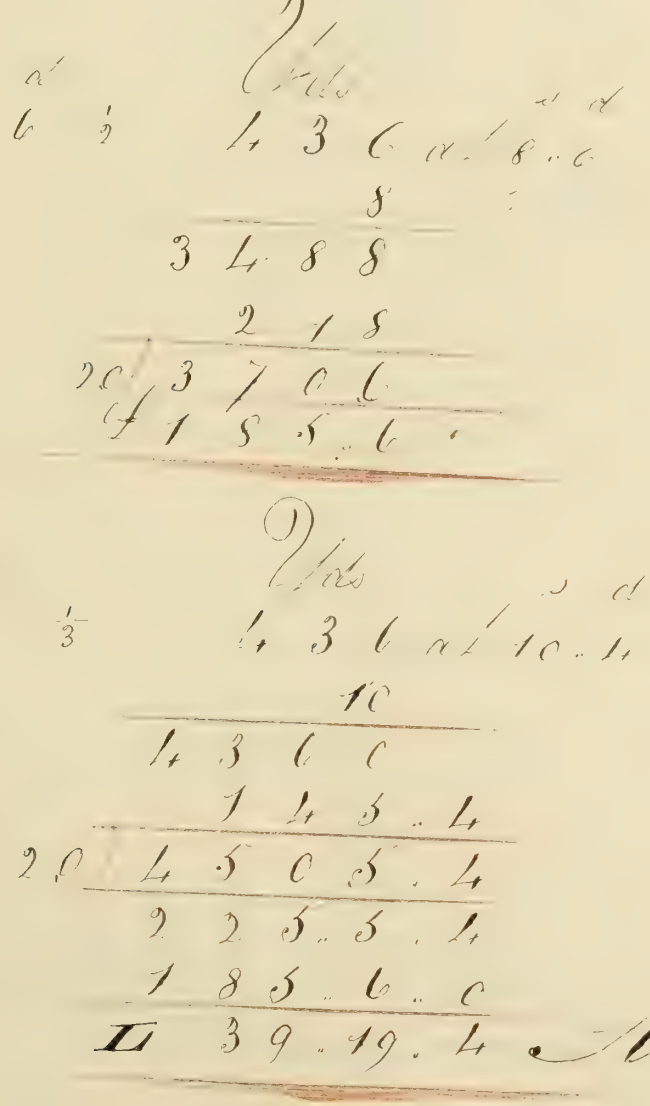
If 90 : 70 10 :: Yds
3 21 1
450 1410 1
4
450) 56604 (125 d
5400
2604
12
450) 31258 (7 d 1
3150 1
1350
1
450
115 x 12 = 1

A plumber sold 10 feet of lead for £ 204.
15 and gained after the rate of £ 12.10 per cent
What did it cost him per ft





What was the profit on 436 yards of cloth bought at 8s 6d and sold at 10s 4d per yard



Bought 12 lbs of shot at 8 pence per lb which

was retailed at 6 pence ℔ What was the loss sustain

			c	Stones		
			1	6	0	
				1	4	
			6	4	0	
d		1	6	0		
6	½	2	2	4	0	al ed
2	0	1	1	2	0	
	£	3	6			

	6	9	
	5	1	
	1	3	
	1	4	
	5	2	
1	3		
1	8	5	

Loss

Bought 124 yards of linen for £ 3 12. How should the same be retailed per yard to gain £ 15 per cent

£ s d
100 : 115 :: 3 12

32
230
345

100) 368 0 (3 6 16
300
680
600
80

20
100) 1600 (16
100
600
600
...

£ s d
100 : 3 6 16 0 :: 24
20
736
12
124) 8832 (71
868
152
124
28

2 Bought 24 yards of cloth at 3s 4d per yard and retailed the same at 4s 2d per yard What was the whole gain and how much per cent

d.	Yds	s.	d.
4 1/3	2 4 9 at	3	4
	3		
	7 4 1		
	5 3		
20	5 3 0		
	4 4 1	1	10

d	Yds	s	d
2	1/6 2 4 9 at	1	2
	4		
	9 9 6		
	4 1 6		
20	10 3 7 6		
	5 1 17 6		
	4 1 10 0		
	4 10 7 6		

4 1 10 : 10 7 6 : 1 0 0

20 20 20

5 3 0 2 0 7 2 0 0 0

12

2 4 9 0

8 3 0 | 4 9 8 0 0 0 0 | 0 0 0 0

4 0 8 0 20 3 0 0

. . . 0 0 0 4 2 5 Ans

FELLOWSHIP

A and B joined in trade A put in £20
B £30 and £40 and they gained £18. What
is each mans part of the gain

		£
A		20
B		30
		40
		90

As 90 : 180 :: 20

20

90) 3600

£40 the first

As 90 : 180 :: 30

30

90) 5400

£60 the 2d part

As 90 : 180 :: 40

40

90) 7200

£80 the 3d part

£40 the first part
60 the 2d part
80 the 3d part

180 Proof

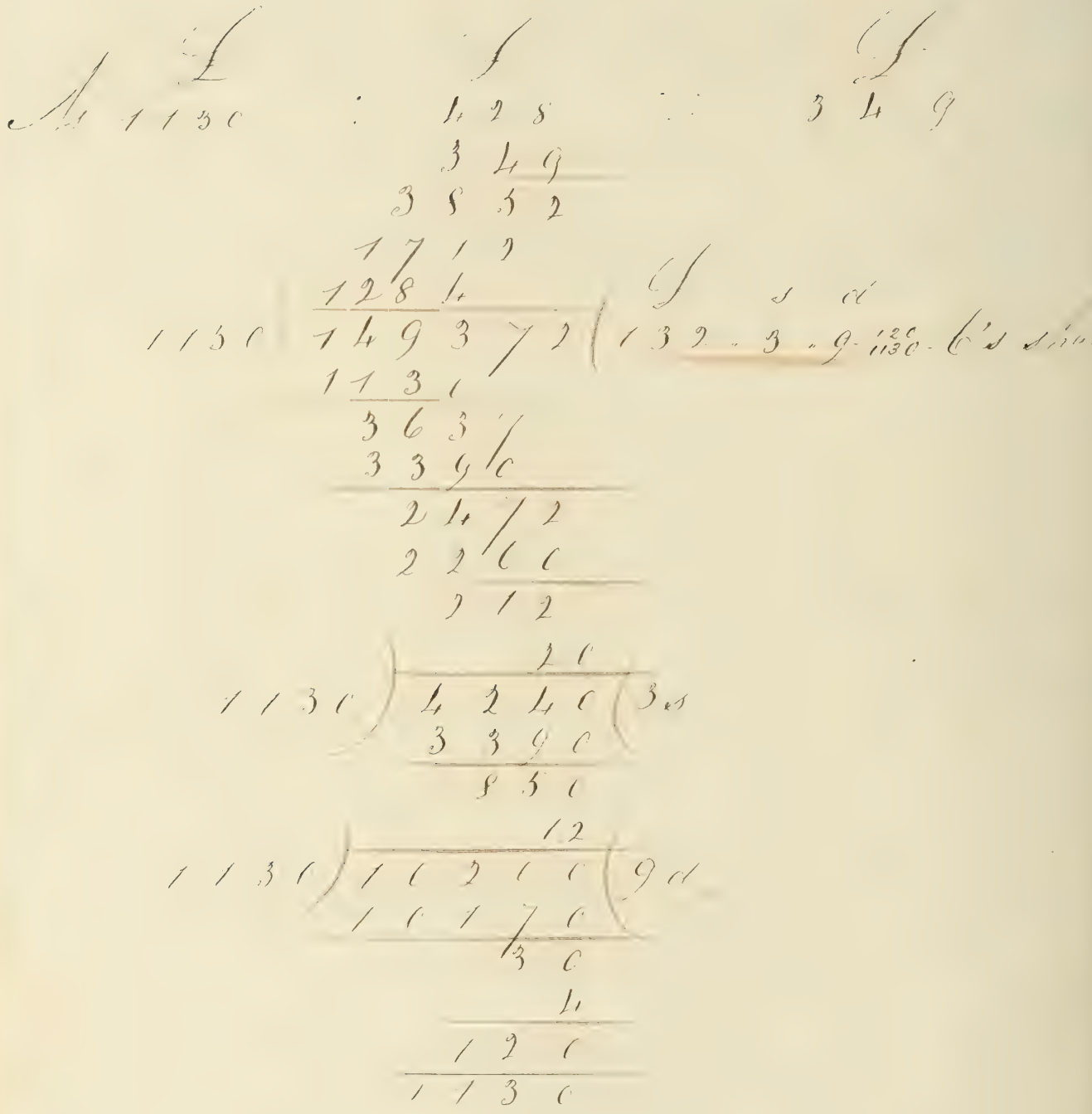
Four persons B C D and E formed a joint stock B put in £227 C £349 D £115 and E £439 they gained £112 Required each persons share of the gain

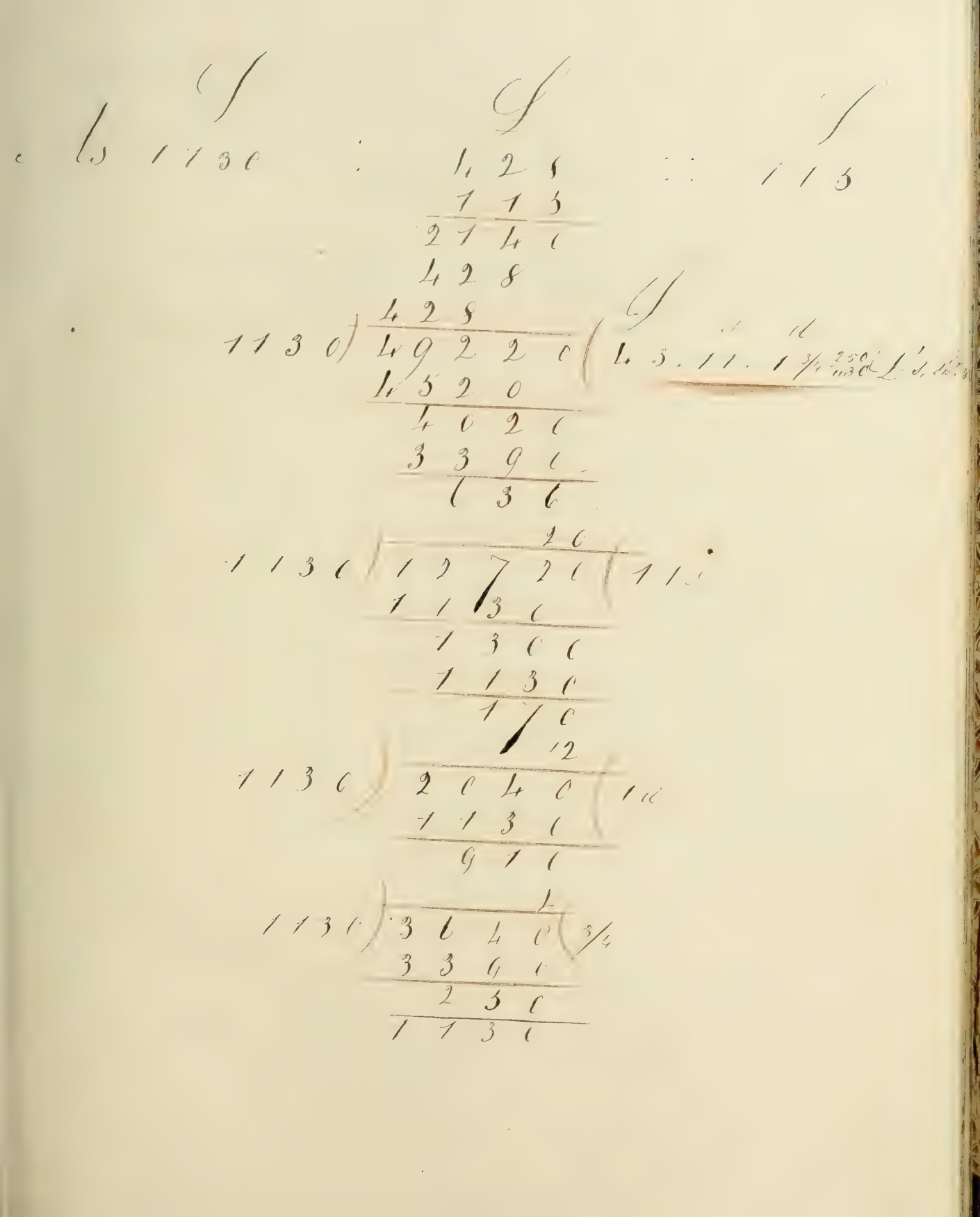
	£
B	227
C	349
D	115
E	439
	1130

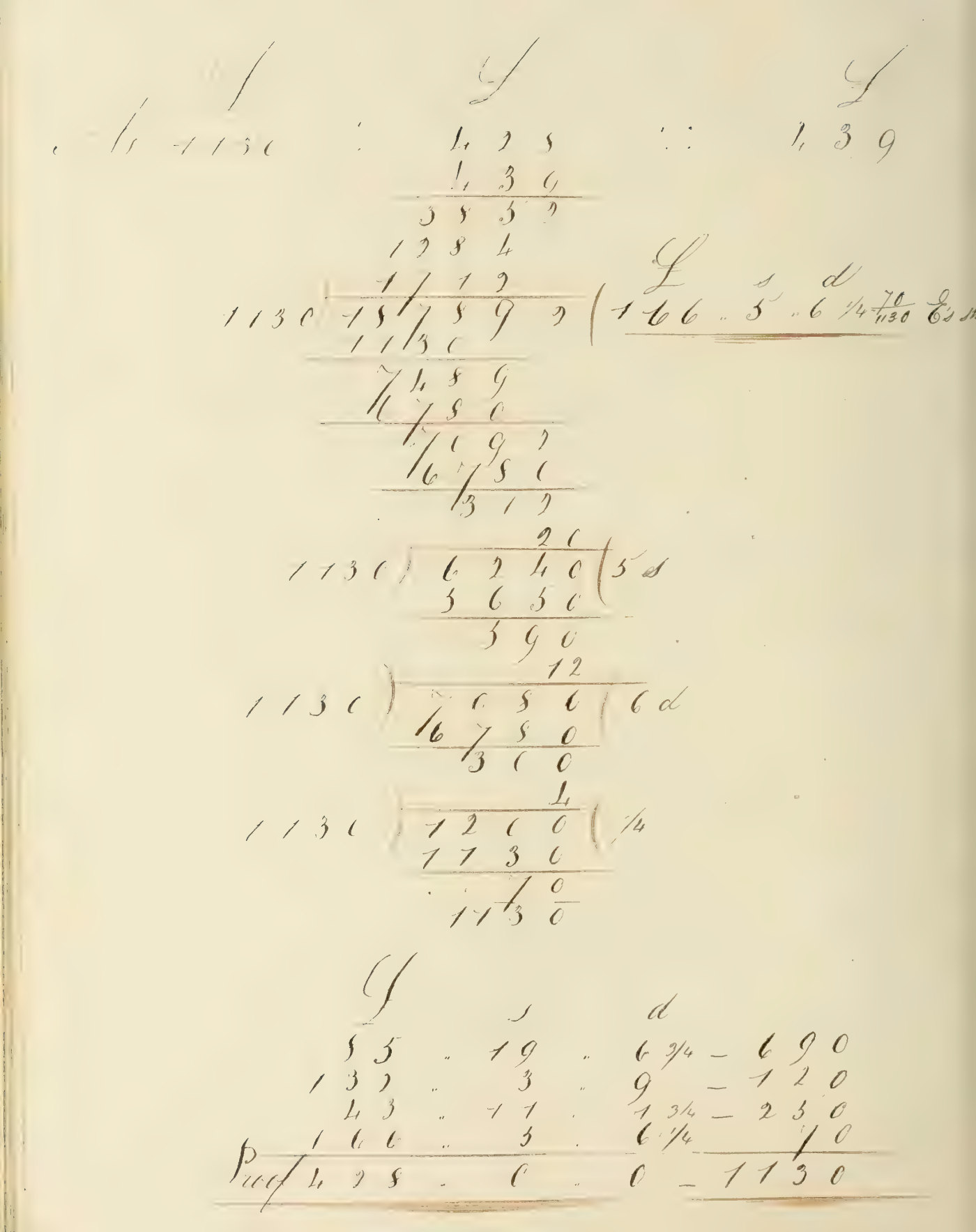
As 1130 : 227 ::

1130) 4528 (4 s
2 2 6 0
2 9 9 8
5 5 6
1130) 9976 (8 s
9040
936
565
371
1130) 2120 (1 s
1130
990
565
425
1130) 7950 (7 d
7910
40
1130) 160 (1 ½ d
113
47
1130) 94 (¾ q
84
10
1130) 40 (0
0
40

£ s d q
55 19 6¾ 1 is B's share







D, E and F entered into partnership [illegible]
£750; b's £460; and C's £500: and at the end
of 12 months they have gained £1710 that is each man
's particular share of the gain

	£
D	750
E	460
F	500
	1710

£	£	£	£
1710	: 684	: 750	
	750		
	3420		
	4755	£	
1710	51300	300	D's Share
	5130		
	. . .	00	

£ £ £

4 1/10 : 684 : 460

1460

14140

2736

1710) 3414140 (1814 E's share

17110

14364

13680

6840

6840

. . .

£ £ £

4 1/10 : 684 : 500

500

1/10) 3414000 (200 F's share

34201

. . . 00

£

300 D's share

1814 E's share

200 F's share

6814 Proof

A bankrupt is indebted to B £2,315.14.6
to C £3,104.7 to D £152 and to E £104.6 but
when his estate is found to be worth but
£675.15 How much is to be divided amongst the creditors

	£	s	d
B	2	3	14
C	3	0	4
D	1	5	2
E	1	0	4
	9	3	6

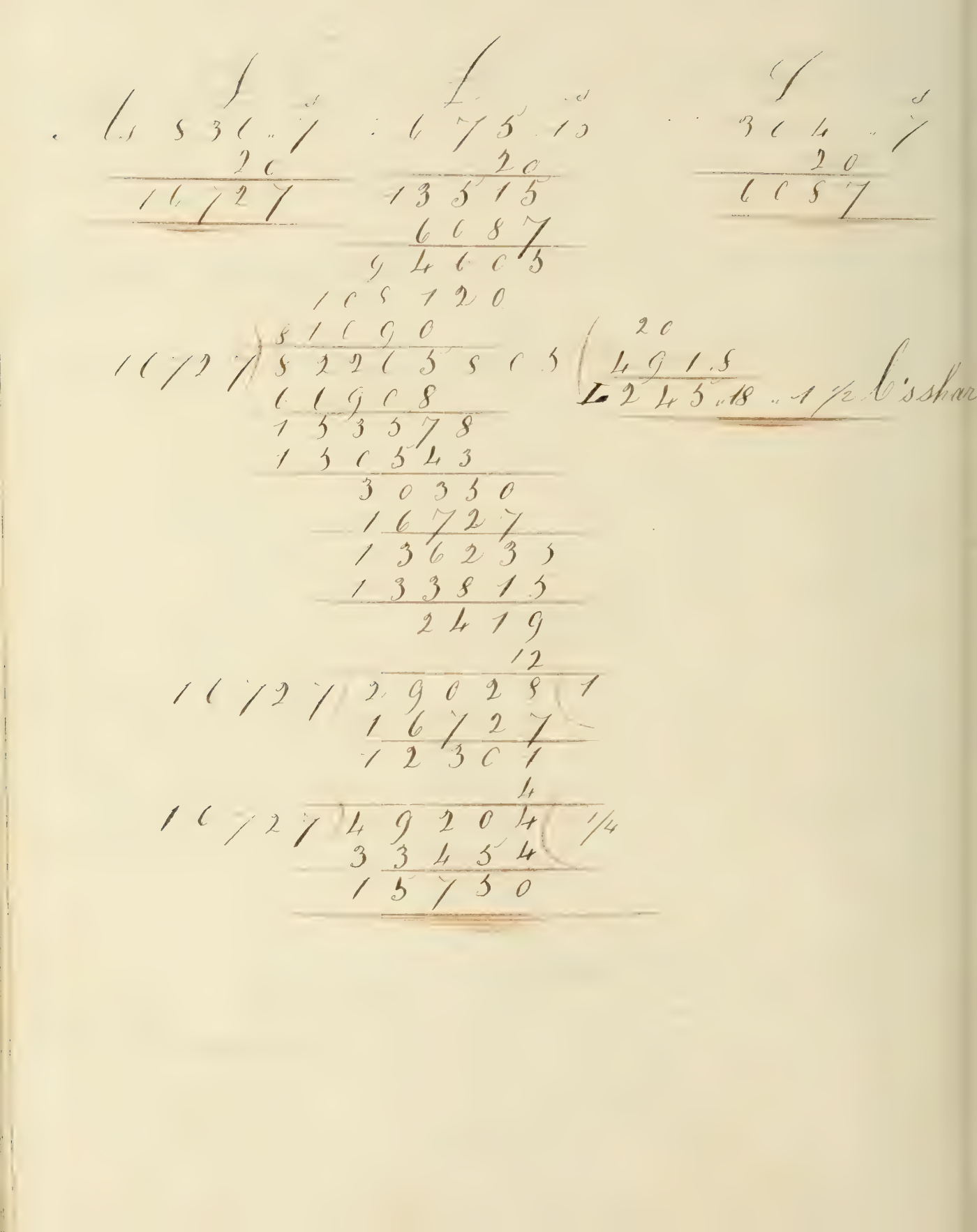
£ s d
£9 3 6 : 7
20
186 | 27

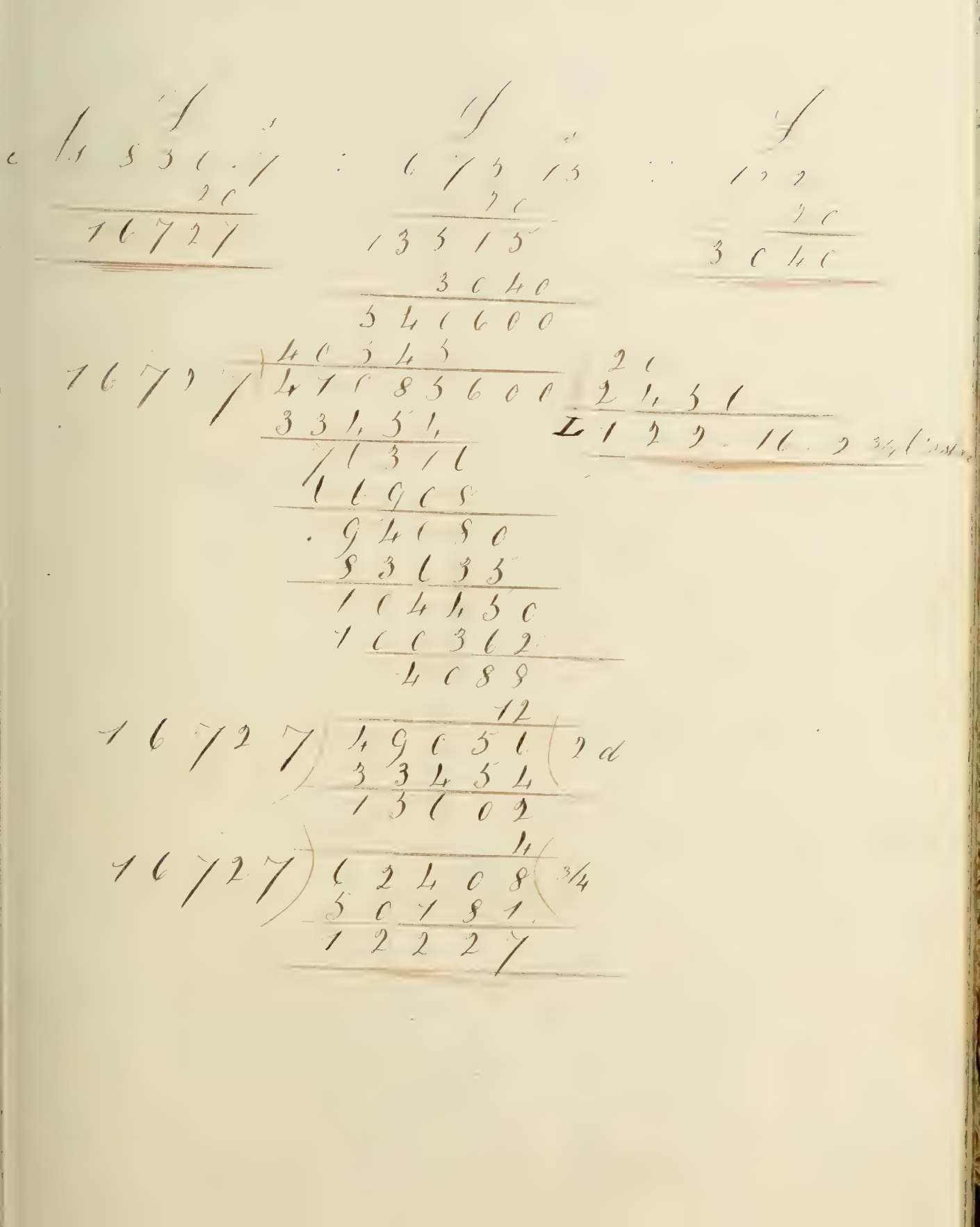
£ s d
£675 : 15
20
13515
5514
5400
1375
675
675
186 | 27 | 74527 | 10

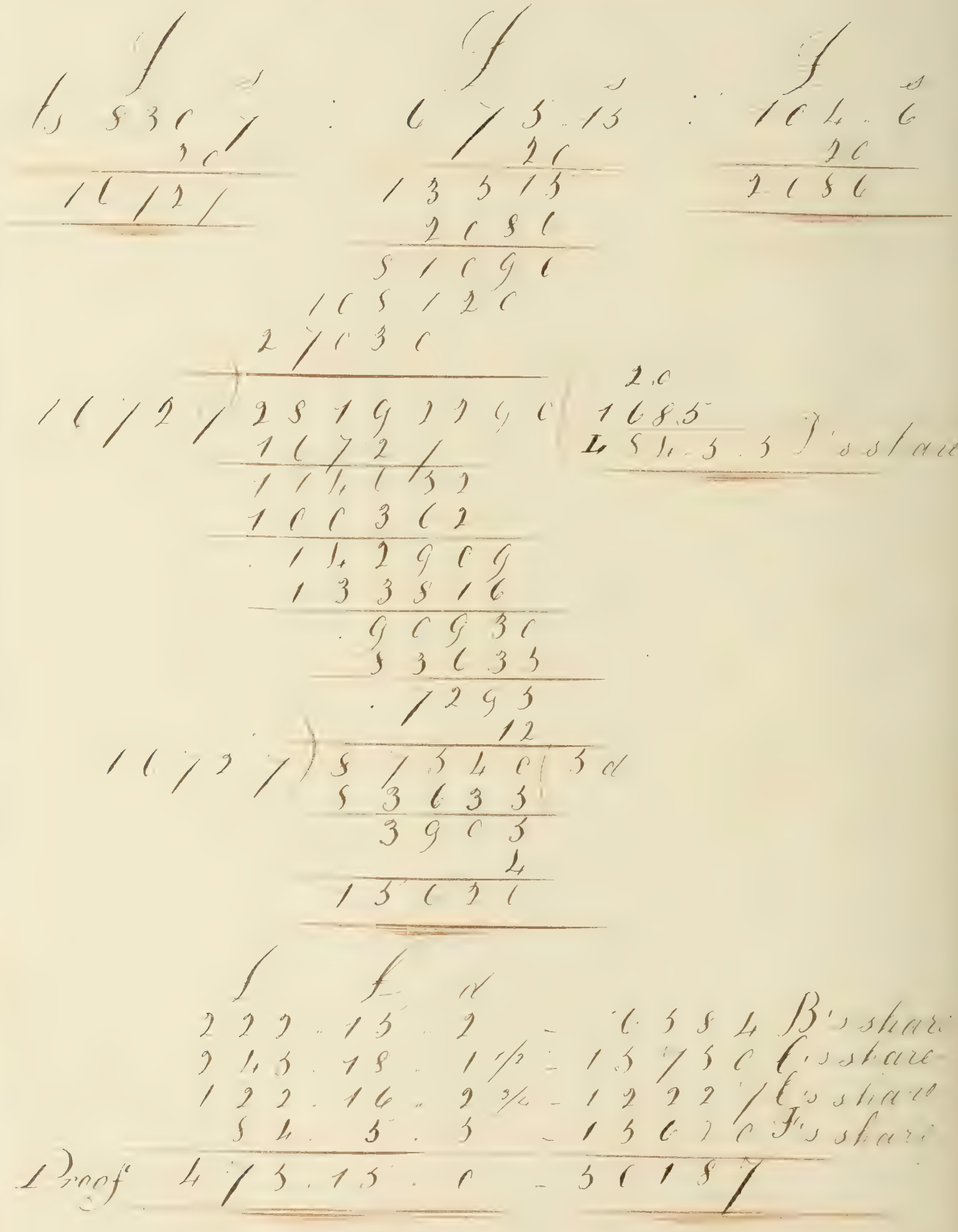
£ s d
£275 : 14
20
5514

20
14453
£222 : 15 : 2 B's share

186 | 27 | 74527 | 10
66908
7137
66908
9221
5301
8650
8302
2925







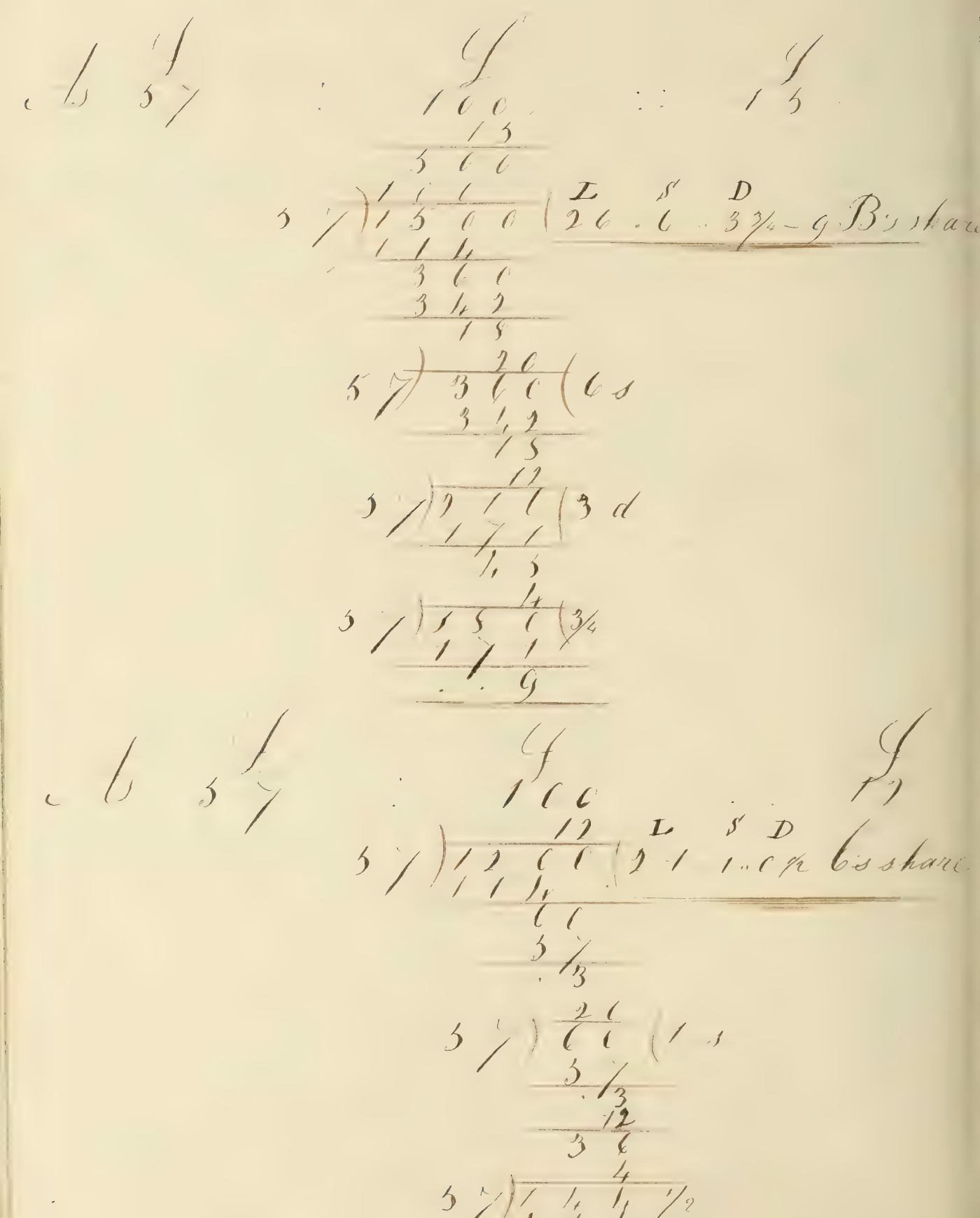
Four persons trade together with a joint capital of which A has ⅓ B ¼ C ⅓ and D ⅙ and at the end of 6 months they gain 100. What is each person's share of the gain

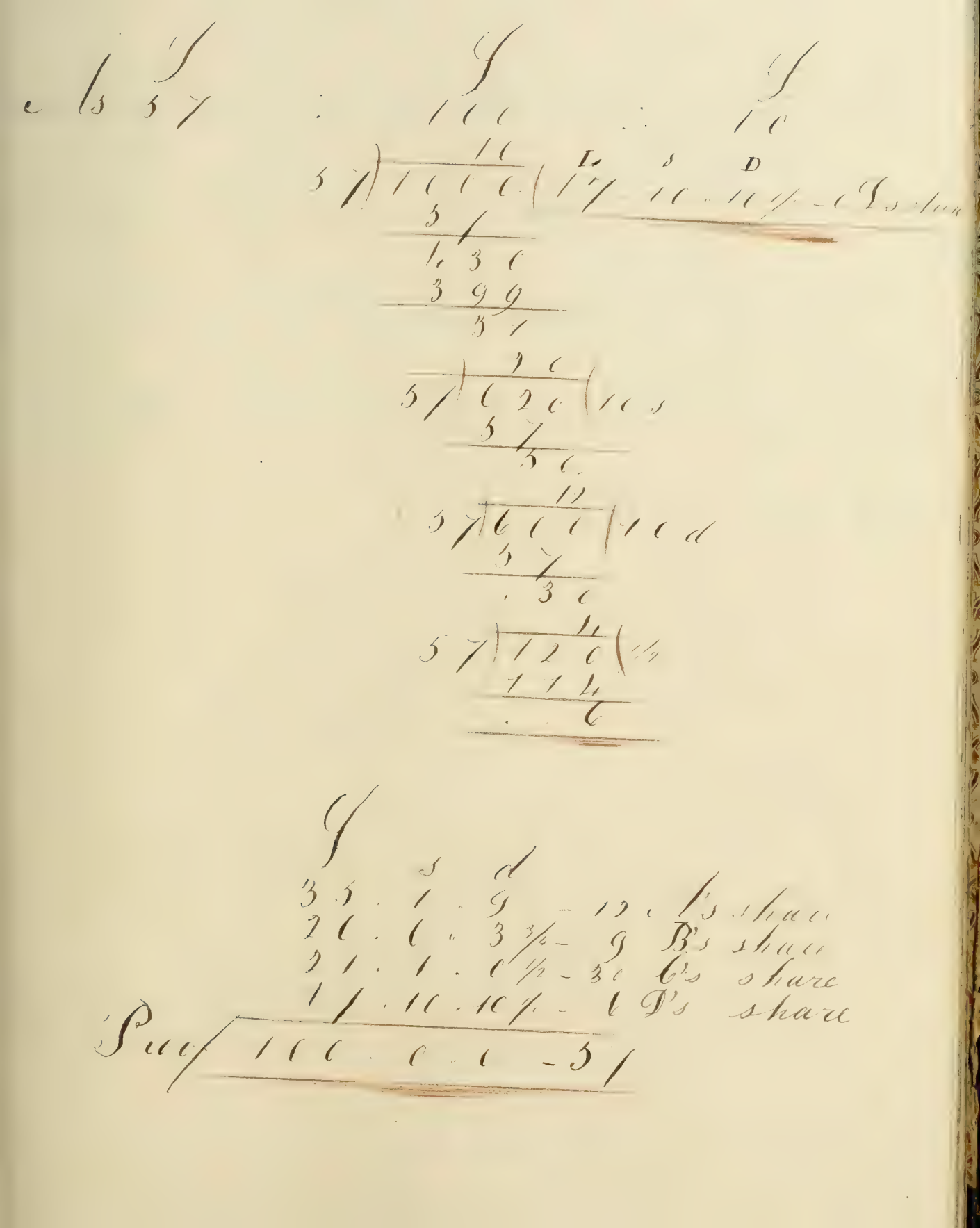
Suppose

	60	
⅓ =	20	A
¼ =	15	B
⅓ =	12	C
⅙ =	10	D
	57	

57 : 100 :: 20 : 35. 1. 9 - 12. A's share

57) 2000 (35. 1. 9 - 12. A's share
171
290
285
5
57) 200 (3 s
171
29
12
57) 348 (6 d
342
6
12





Two persons joined in the purchase of an estate yielding £ 1700 per annum for £ 27200 whereof I paid £ 13000 and I the rest some time after they sold it for 24 years purchase What was each persons share

£
1700
24
6800
34000
40800

£
27200
13000 £
14200 £

£ 27200 : £ 40800 : £ 13000

13000

2040000000

40800

27200) 1224000000 (45000 D's share

34400

15000

34400

136000

136000

.....00

£ £ £

As 27200 : 40800 :: 12200

12200

816000

81600

140800

27200 4977600000 (18300 £'s share

27200

225760

217600

81600

81600

.....00

£

Suppose 22500 D's share

18300 £'s share

40800

I and F form a partnership the amount
of their stock was £ 100 I's gain was £ 3
Es 3 and F's 5 I what was each man's stock

I.	3
E	3
F.	5
	11

£ £ £
As 11 : 100 : 3

3
11 { 5) 3 0 0
2) 3 7 = 1,
£ 15. 13 I's stock

£		£		£
6	15	11	100	5

5

11 { 5 | 500
2 | 62-4

£31.5 £'s stock

£		£		£
6	15	11	100	5

5

16 { 5 | 500
2 | 100

£50 £'s stock

	£	s
~~Surplus~~	18	13
	31	5
	31	0
	100	0

Allegation

A grocer mixed 4 cwt of sugar at 56 s per cwt with 7 cwt at 43 s per cwt and 5 cwt at 37 s per cwt What is the value of 1 cwt of this mixture

cwt		s		s
4	×	56	=	224
7	×	43	=	301
5	×	37	=	185
16	×			710

4) 710
4) 177 – 2
20) 44 – 1
£2 . 4 . 4½

Ans. £ 2 . 4 . 4½

A vintner mixes 15 gallons of canary at 8s per gallon with 20 gallons at 7s 4d per gallon 10 gallons of sherry at 6s 8d per gallon and 24 gallons of white wine at 4s per gallon What is the worth of a gallon of the mixture

gal		s		s
15	×	96	=	1440
20	×	88	=	1760
10	×	80	=	800
24	×	48	=	1152
69				5152 (74
				483 s 6. 2 ½ 46/69
				322
				276
				46
				4
69				184 (½
				138
				46
				69

Ans 6s 2d ½ 46/69

A maltster mixes 30 quarters of brown malt at 28s per quarter with 46 quarters of pale at 30s per quarter and 24 quarters of high dried ditto at 25s per quarter

What is one quarter of the mixture worth

Qrs		s		s	
30	×	28	=	840	
46	×	30	=	1380	
24	×	25	=	600	20
100		100		2820	28
				200	1.8.2.4
				820	
				800	
				20	
				12	
		100		240	2d
				200	
				40	
				12	
		100		160	1/4
				100	
				60	
				100	

1 qr 2 1/4
1. 5. 2 1/4

A vintner mixes 20 quarts of port at 3s 4d per quart with 12 quarts of white wine at 2s per quart 30 quarts of lisbon at 6s per quart and 20 quarts of mountain at 4s 6d per quart What is a quart of this mixture worth

qts s s
20 × 64 = 1280
12 × 60 = 720
30 × 72 = 2160
20 × 54 = 1080
82 12
82) 5246 (63
492 = 5. 3 3/4
326
246
80
82) 296 (3/4
246
50
82

Anhang

FRACTIONS.

Reduce $\frac{30}{125}$ to its lowest terms

$$
\begin{array}{r}
30\,)\,125\,(4 \\
\underline{120} \\
5\,)\,30\,(6 \\
\underline{30}
\end{array}
$$

Common Measure

Then $\frac{30}{125} \div 5 = \frac{6}{25}$ the Answer

Reduce $\frac{208}{684}$ to its lowest terms

208)684(3
611
60)208(3
180
28)60(2
56
Com Measure . 4 28 7
2 8

Then $\frac{208}{684} \div 4 = \frac{52}{171}$ the Answer

Reduce $\frac{192}{576}$ to its lowest terms

Com. Measure 192)576(3
576
. . .

Then $\frac{192}{576} \div 192 = \frac{1}{3}$ the Answer

Reduce $\frac{825}{960}$ to the least terms

825 | 960 | 1
825
135 | 825 | 6
750
75 | 135 | 1
75
60 | 75 | 1
60
Com. Measure 15 | 60 | 4
60

Then $\frac{825}{960} \div 15 = \frac{55}{64}$ the answer

Reduce $\frac{5184}{6912}$ as much as possible

5184 | 6912 | 1
5184
Com. Measure 1728 | 5184 | 3
5184

Then $\frac{5184}{6912} \div 1728 = \frac{3}{4}$ the answer

1 Reduce $\frac{12540}{21945}$ to its lowest terms

12540) 21945 (1
12540
9405) 12540 (1
9405
3135) 9405 (3
9405
. . . .

Com Measure 3135

Then $\frac{12540}{21945} \div 3135 = \frac{4}{7}$ the answer

2 Reduce $\frac{99713}{113960}$ to the lowest terms

99713) 113960 (1
99713
14247) 99713 (7
99713
.

Com Measure 14247

Then $\frac{99713}{113960} \div 14247 = \frac{7}{8}$ the answer

7 What are the lowest terms of $\frac{3108}{3552}$

$$\begin{array}{r} 3108 \overline{)\,3552\,(1} \\ \underline{3108} \\ 444 \overline{)\,3108\,(7} \\ \underline{3108} \\ \cdots \end{array}$$

Com Measure 444

Then $\frac{3108}{3552} \div 444 = \frac{7}{8}$ the Answer

8 Reduce $\frac{129}{7}$ to a mixed number

$129 \div 7 = 18\,3/4$ the Answer

9 Reduce $\frac{69}{5}$ to its equivalent number

$69 \div 5 = 13\,4/5$ the Answer

10 Reduce $\frac{245}{9}$ to its equivalent number

$245 \div 9 = 27\,2/9$ the Answer

Reduce $\frac{1245}{22}$ to its equivalent number

$1245 \div 22 = 56\frac{13}{22}$ the Answer

Reduce $\frac{3849}{21}$ to its equivalent number

$3849 \div 21 = 183\frac{2}{7}$ the Answer

Reduce $\frac{1151}{16}$ to its equivalent number

$1151 \div 16 = 71\frac{15}{16}$ the Answer

Reduce $18\frac{3}{7}$ to the form of a fraction

$18\frac{3}{7} = \frac{18 \times 7 + 3}{7} = \frac{129}{7}$ the Answer

Reduce $56\frac{13}{22}$ to an improper fraction

$56\frac{13}{22} = \frac{56 \times 22 + 13}{22} = \frac{1245}{22}$ the Answer

1) Reduce $183\frac{5}{21}$ to an improper fraction

$183\frac{5}{21} = \frac{183 \times 21 + 5}{21} = \frac{3848}{21}$ the answer

2) Reduce $13\frac{4}{5}$ to its equivalent fraction

$13\frac{4}{5} = \frac{13 \times 5 + 4}{5} = \frac{69}{5}$ the answer

3) Reduce $17\frac{2}{9}$ to its equivalent fraction

$17\frac{2}{9} = \frac{27 \times 9 + 2}{9} = \frac{245}{9}$ the answer

4) Reduce $54\frac{5}{16}$ to a fractional form

$54\frac{5}{16} = \frac{54 \times 16 + 5}{16} = \frac{869}{16}$ the answer

5) Reduce $\frac{36\frac{2}{3}}{48}$ to a simple fraction

$$36\frac{2}{3}$$

$$\frac{3}{110}$$

$$\frac{3}{1}$$

$$48$$

$$\frac{110}{3} \times \frac{1}{48} = \frac{110}{144} = \frac{55}{72}$$ the c Insuree

2 Reduce $\frac{235}{7}$ to a simple fraction

$$235\frac{7}{7}$$

$$\frac{166}{7}$$

$$\frac{7}{1}$$

$$38$$

$$\frac{166}{7} \times \frac{1}{38} = \frac{166}{266} = \frac{83}{133}$$ the c Insuree

Reduce $\frac{47}{65\frac{4}{5}}$ to a simple fraction

$$\frac{65\frac{4}{5}}{329}$$
$$5$$

$\frac{47}{65\frac{4}{5}} = \frac{47}{329} \times \frac{5}{1} = \frac{235}{329} = \frac{5}{7}$ the answer

Reduce $\frac{19}{44\frac{1}{3}}$ to a simple fraction

$$\frac{133\frac{1}{3}}{399}$$
$$3$$

$\frac{19}{44\frac{1}{3}} = \frac{19}{133} \times \frac{3}{1} = \frac{57}{133} = \frac{3}{7}$ the answer

Reduce $\frac{2}{3}$ of $\frac{3}{5}$ of $\frac{1}{8}$ to a simple fraction

$\frac{\cancel{2}}{\cancel{3}} \times \frac{\cancel{3}}{\cancel{5}} \times \frac{\overset{1}{\cancel{5}}}{\underset{4}{\cancel{8}}} = \frac{1}{4}$ the answer

Reduce $\frac{5}{9}$ of $\frac{4}{7}$ of $\frac{11}{12}$ to a simple fraction.

$$\frac{5}{9} \times \frac{4}{7} \times \frac{11}{\cancel{12}_{3}} = \frac{55}{189}$$ The Answer

Reduce $\frac{11}{12}$ of $\frac{13\frac{3}{5}}{14\frac{42}{65}}$ of $\frac{28}{38\frac{2}{3}}$ to a simple fraction.

$$\frac{13\frac{3}{5}}{\frac{5}{68}{}^{5}} \qquad \frac{14\frac{42}{65}}{\frac{65}{112}\ \frac{84}{952}{}^{65}} \qquad \frac{38\frac{2}{3}}{\frac{3}{116}{}^{3}}$$

$$\frac{13\frac{3}{5}}{14\frac{42}{65}} = \frac{\frac{68}{5}}{\frac{952}{65}} \qquad \frac{28}{38\frac{2}{3}} = \frac{1}{\frac{28}{116}{}^{3}}$$

$$\frac{\cancel{11}_{1}}{\cancel{12}_{1}} \times \frac{\cancel{68}}{\cancel{952}_{14}{}_{7}} \times \frac{13}{\cancel{65}_{5}} \times \frac{1}{116} \times \frac{3}{28_{7}} = \frac{143}{232}$$ The Ans

2. Reduce $\frac{3}{4}$ of $\frac{6}{91}$ of $\frac{11\frac{3}{8}}{5}$ to a single fraction

$$\frac{11\frac{3}{8}}{\frac{5}{91}}$$

$$\frac{3}{4} \times \frac{\overset{3}{\cancel{6}}}{\underset{91}{\cancel{91}}} \times \frac{91}{\underset{1}{\cancel{8}}} = \frac{9}{16}$$ the answer

3. Reduce $\frac{1\frac{1}{2}}{14}$ of $3\frac{1}{3}$ of 5 to its equivalent numb

$$\frac{3\frac{1}{3}}{\frac{112}{3}}$$

$$\frac{1}{128} \times \frac{112}{3} \times \frac{5}{1} = \frac{430}{384} = 1\frac{7}{24}$$ the Ans

Reduce $\frac{1\frac{1}{2}}{14}$ of $\frac{2\ 3\ 6}{3}$ of $\frac{1}{4}$ to its lowest number

$$\frac{1\frac{1}{2}}{14} = \frac{1\frac{1}{2}}{\frac{2}{3}} = \frac{\frac{2}{2}}{\frac{14}{1}}$$

$$\frac{3}{2} \times \frac{1}{\cancel{14}_{\cancel{2}}} \times \frac{\cancel{1}^{\cancel{5}}\ \cancel{1}^{\cancel{9}}\ \cancel{8}}{\cancel{2}\ \cancel{3}\ \cancel{6}_{\cancel{8}}} \times \frac{1}{4} \times \frac{7}{2} = 7\frac{3}{8}$$ the Ans!

Reduce $\frac{3}{4}$d to the fraction of a crown

$$\frac{\cancel{8}}{4} \times \frac{1}{\cancel{60}_{20}} = \frac{1}{80}$$ the Answer

Reduce $\frac{4}{5}$ dwt to the fraction of a lb troy

$$\frac{\cancel{4}}{5} \times \frac{1}{\cancel{20}_{5}} \times \frac{1}{12} = \frac{1}{300}$$ the Answer

Reduce $\frac{4}{7}$ ths avoirdupois to the fraction of a cw

$\frac{4}{7} \times \frac{1}{\cancel{112}\ 28} \times \frac{1}{4} = \frac{1}{196}$ the Answer

Reduce £ $\frac{1}{320}$ to the fraction of a penny

$\frac{1}{320} \times \frac{20}{1} \times \frac{12}{1} = \frac{240}{320}$ the Answer

Reduce $\frac{1}{300}$ of a pound troy to fraction of a penny weight

$\frac{1}{\cancel{300}\ 25} \times \frac{\cancel{240}}{1} \times \frac{20}{1} = \frac{20}{25} = \frac{4}{5}$ the Answer

Reduce $\frac{2}{5}$ s to its proper value

$\frac{2}{5} \times \frac{12}{1} = \frac{24}{5} = 4\ 3/4\ \frac{1}{5}$ the Answer

1) Reduce $\frac{4}{7}$ of a lb avoirdupois to its proper value

$\frac{4}{7} \times \frac{16}{1} = \frac{64}{7} = 9 \text{ oz } 2\frac{2}{7}$ dr the Answer

2) Reduce $\frac{7}{9}$ cwt to its proper value

$\frac{7}{9} \times \frac{4}{1} = \frac{28}{9} = 3 \text{ qrs } 3\frac{1}{9}$ lb the Answer

3) Reduce $\frac{3}{5}$ of a lb troy to its proper value

$\frac{3}{5} \times \frac{12}{1} = \frac{36}{5} = 7 \text{ oz } 4$ dwt the Answer

4) Reduce $\frac{14}{25}$ of an old English lb to its proper value

$\frac{14}{25} \times \frac{5}{1} = \frac{14}{5} = 2 \text{ qrs } 3$ lb the Answer

5) What is the value of $\frac{13487}{34166}$ cwt

$\frac{13487}{34166} \times \frac{4}{1} = \frac{61948}{34166} = 1 \text{ qr } 22 \text{ lb } \frac{237}{1063}$ the Answer

1 Reduce $\frac{255}{352}$ of a mile to its proper value

$\frac{255}{352} \times \frac{8}{1} = \frac{2280}{352} =$ 6 fur. 168 yds. the Answer.

2 Reduce $\frac{73}{48}$ of an acre to its proper value

$\frac{73}{48} \times \frac{4}{1} = \frac{292}{48} =$ 1 a. 2 r. 32 p. the Answer

3 What is the value of £ $\frac{5719}{5760}$

$\frac{5719}{5760} \times \frac{20}{1} = \frac{114380}{5760} =$ 19 s. 11 d. 1 q. $\frac{1}{6}$ the Answer

4 Reduce 15 s to the fraction of a pound sterling

$\frac{15}{1} \quad \frac{20}{1} \quad 15 \div \frac{15}{20} = \frac{3}{4}$ £ the Answer

5 Reduce 1 d 35 grs to the fraction of a shilling

1 d 1 q 3 grs

4
19
3
96

20
12
240

6 Then $\frac{96}{240} \div \frac{48}{240} = \frac{2}{5}$ the Answer

4 Reduce 9 oz 2 1/3 dr to the fraction of a lb

avoirdupois

oz	dr
9	2 2/7
16	
146	
7	
1024	

oz
16
16
96
11
1056
1
1792

Then $\frac{1024}{1792} = 252\ \frac{4}{7}$ the Answer

5 Reduce 3 qrs 3 1/7 lb to the fraction of a cwt

qrs	lb
3	3 1/7
28	
11	
6	
87	
9	
784	

lb
28
4
112
9
1008

Then $\frac{784}{1008} \div 112 = \frac{1}{9}$ the Answer

Reduce 7 oz 4 drs to the fraction of a lb

oz	drs
7	4
20	
144	

6	
12	
20	
240	

Then $\frac{144}{240} \div 48 = \frac{3}{5}$ the Answer

Reduce 2 qrs $3\frac{1}{9}$ nails to the fraction of an English

qrs	n
2	$3\frac{1}{9}$
4	
28	
4	
100	

5	
4	
20	
9	
180	

Then $\frac{100}{180} \div 20 = \frac{5}{9}$ the Answer

Reduce 11 d $6\frac{1}{2}$ d $\frac{2}{11}$ to the fraction of a £

s	d	
1	11	$6\frac{1}{2}$
	12	
1	4	
	4	
69	8	
	11	
7	6 8 0	

1	
20	
	$\frac{1}{2}$
21	0
	4
96	0
	11
1056	0

Then $\frac{7680}{10560} \div 960 = \frac{8}{11}$ the Answer

5 Reduce 1d $1\frac{11}{13}$ qrs to the fraction of a crown

d	d
4 1/4 $\frac{11}{13}$	60
4	4
17	240
13	13
62	720
17	240
1 3 1	3 1 2 0

Then $\frac{232}{3120} \div 8 = \frac{29}{390}$ the Answer

6 What fraction of an acre are 3 roods 32 perches

r	p	d
3	32	4
40		40
150		160

Then $\frac{152}{160} \div 8 = \frac{19}{20}$ the Answer

7 What part of a shilling is $\frac{2}{3}$ of 2d

Then $\frac{2}{3} \times \frac{1}{\frac{6}{3}} = \frac{1}{9}$ the Answer

1 Reduce $\frac{1}{2}$ $\frac{3}{4}$ and $\frac{2}{8}$ to a common denominator

2 2, 4, 8
2 1, 2, 4
1, 1, 2

$2 \times 2 \times 2 = 8$ least common denominator

3 Then $8 \div 2 = 4 \times 1 = 4$
$8 \div 4 = 2 \times 3 = 6$
$8 \div 8 = 1 \times 5 = 5$

4 Hence the fractions become $\frac{4}{8}$ $\frac{6}{8}$ $\frac{5}{8}$ the
5 answer

1 Reduce $\frac{4}{5}$ $\frac{4}{6}$ $\frac{6}{11}$ and $\frac{6}{7}$ to a common denominator

2 5, 6, 11, 7
4, 3, 5, 7

3 $4 \times 3 \times 5 \times 7 = 840$ least fraction denominator

4 Then $840 \div 5 = 168 \times 4 = 672$
$840 \div 6 = 140 \times 4 = 560$
$840 \div 10 = 80 \times 6 = 504$
$840 \div 7 = 120 \times 6 = 720$

5 Hence the fractions become $\frac{672}{840}$ $\frac{560}{840}$

$\frac{504}{840}$ $\frac{720}{840}$ the answer

Reduce $\frac{3}{5}$ $\frac{1}{2}$ and $\frac{1}{7}$ to a common denomi-
nator

2 5, 1, 7
5, 1, 7

2 × 5 × 1 × 7 = 70 least common denominator

Then 70 ÷ 5 = 14 × 3 = 42
70 ÷ 2 = 35 × 1 = 35
70 ÷ 7 = 10 × 1 = 10

Hence the fractions become $\frac{42}{70}$ $\frac{35}{70}$
$\frac{10}{70}$ the Answer

Reduce $\frac{3}{11}$ $\frac{4}{7}$ and $\frac{31}{15}$ of 1 a common denominator

2 11, 7, 30
11, 7, 15

11 × 7 × 15 = 1155 least common denominator

Then 1155 ÷ 11 = 105 × 3 = 315
1155 ÷ 7 = 165 × 4 = 660
1155 ÷ 15 = 77 × 7 = 539

Hence the fractions become $\frac{315}{1155}$ $\frac{660}{1155}$
$\frac{539}{1155}$ the answer

3) Reduce $1\frac{1}{4}$ $2\frac{1}{5}$ and $\frac{1}{3}$ of $1\frac{1}{4}$ to a common denominator

$1\frac{1}{4}$ $\quad$ $2\frac{1}{5}$ $\quad$ $\frac{1}{3} \times 1\frac{1}{4}$

$4 \quad 5 \quad 4$

$5 \quad 11 \quad \frac{1}{3} \times \frac{5}{4} = \frac{5}{12}$

$4 \quad 5$

2) 4, 5, 12

2) 2, 5, 6

1, 5, 3

2 2 1 3 3 is least common denominator

When $60 \quad 4 = 15 \times 5 = 75$

$60 \quad 5 = 12 \times 11 = 132$

$60 \quad 12 = 5 \times 5 = 25$

When the fractions become $\frac{75}{60}$

$\frac{132}{60}$ $\quad$ $\frac{25}{60}$ the Answer

ADDITION

Add $\frac{3}{4}$ $\frac{2}{7}$ and $\frac{2}{6}$ Ans

$2 \times 2 \times 7 \times 3 = 84$ the common denominator

$84 \div 4 = 21 \quad 21 \times 3 = 63$
$84 \div 7 = 12 \quad 12 \times 2 = 24$
$84 \div 6 = 14 \quad 14 \times 5 = 70$

Sum $\frac{63}{84} + \frac{24}{84} + \frac{70}{84} = \frac{157}{84}$ the same

Add $\frac{1}{5}$ $1\frac{1}{3}$ and $\frac{1}{3}$ Ans

$5 \quad 5, 3, 5$
$1, 3, 5$

$1\frac{1}{3}$
3
13
3

$5 \times 1 \times 3 \times 5 = 15$ the common denominator

$15 \div 5 = 3 \quad 3 \times 1 = 3$
$15 \div 3 = 5 \quad 5 \times 13 = 65$
$15 \div 5 = 3 \quad 3 \times 2 = 6$

Sum $\frac{3}{15} + \frac{65}{15} + \frac{6}{15} = \frac{74}{15} = 4\frac{14}{15}$ the Answer

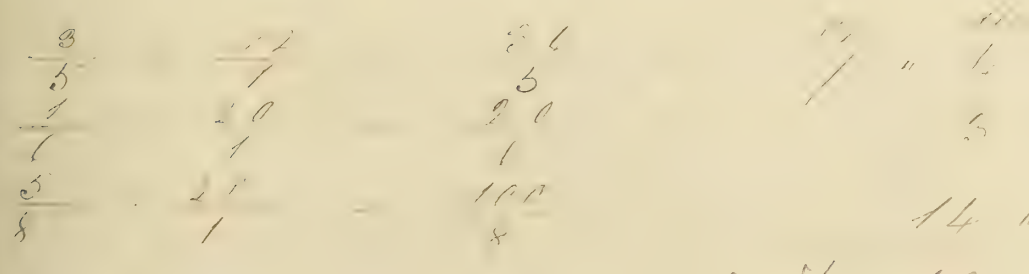
Add $\frac{3}{5}$ of a pound to $\frac{2}{3}$ of a shilling

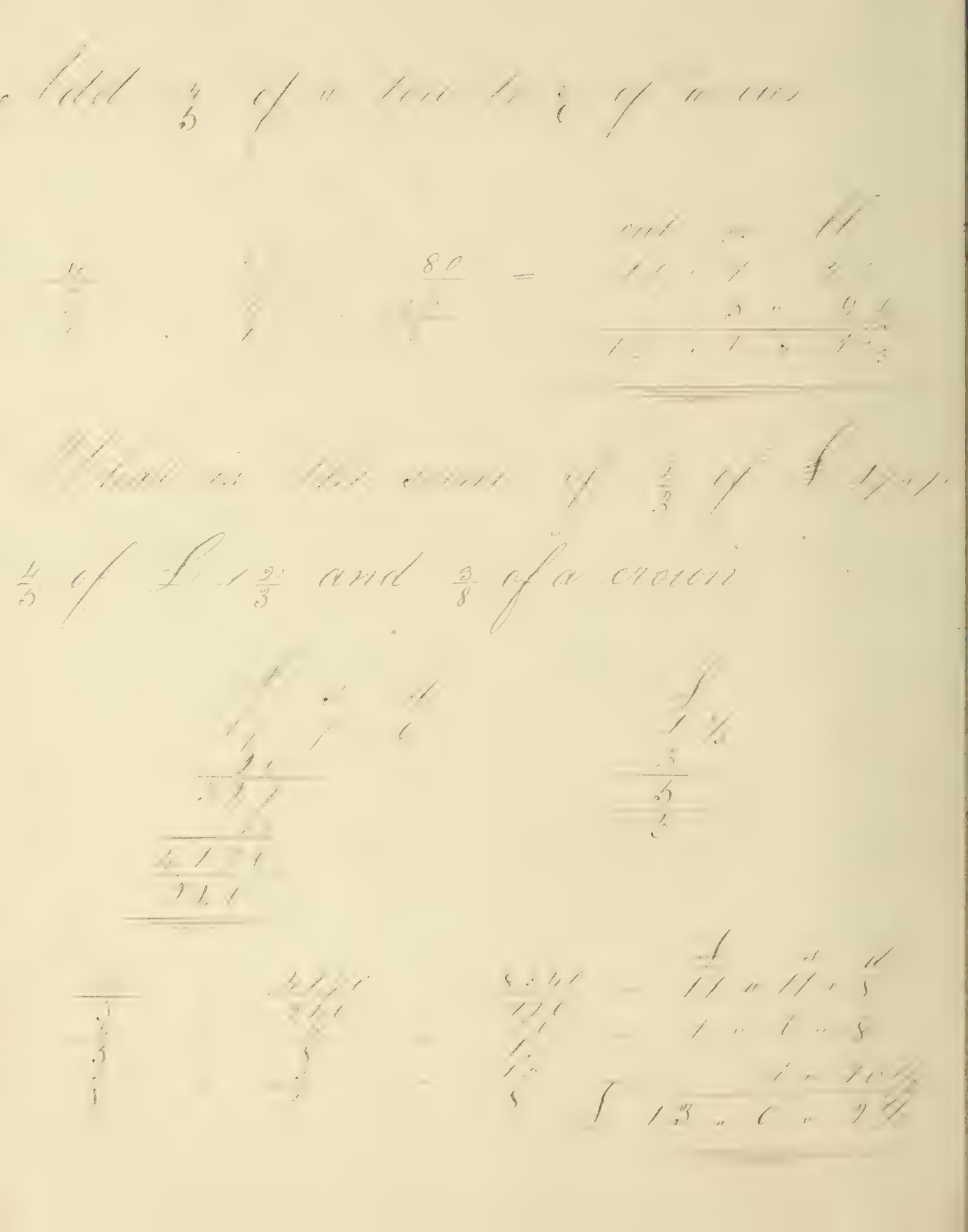


Add $\frac{1}{2}$ of $\frac{3}{5}$ and $\frac{4}{5}$



Add $\frac{2}{3}$ of $\frac{1}{2}$ and $\frac{4}{5}$





Add $\frac{4}{5}$ of 3 a 1 r 20 p $\frac{3}{8}$ of an acre

and $\frac{3}{4}$ of 3 roods 15 perches

a	r	p
3	1	20
	4	
	13	
	40	
	540	
	160	

r	p
3	15
	40
	135
	160

$\frac{4}{5}$ × $\frac{540}{160}$ = $\frac{2160}{800}$ = 2 a 2 r 32 p

$\frac{3}{8}$ × $\frac{4}{1}$ = $\frac{12}{8}$ = 1 r 10 p

$\frac{3}{4}$ × $\frac{135}{160}$ = $\frac{405}{640}$ = 0 r 21 $\frac{1}{2}$ p

3 1 . 3 5

Subtraction.

Prove $\frac{3}{4}$ take $\frac{3}{5}$

$$\begin{array}{rrr} 5 & 5 & 25 \\ 3 & 6 & 18 \\ \hline 1 & 5 & 31 \end{array}$$

Then $\frac{25}{30} - \frac{18}{30} = \frac{7}{30}$ the answer

Prove $\frac{2}{3}$ take $\frac{9}{10}$ of $\frac{5}{5}$

$$\begin{array}{rr} 5 & 2 \\ 3 & 3 \\ \hline 15 & \\ 3 & \end{array} \qquad \begin{array}{rrr} \frac{9}{10} & - & \frac{5}{5} = \frac{9}{10} \\ 5 & & \end{array}$$

$$\begin{array}{rrr} 17 & 10 & 170 \\ 9 & 3 & 21 \\ \hline 10 & 3 & 149 \end{array}$$

Then $\frac{270}{149} - \frac{21}{149} = \frac{249}{149} = 5\frac{3}{43}$ the answer

From $\frac{33}{45}$ take $\frac{3}{5}$ of $\frac{1}{3}$

$$\frac{3}{5} \times \frac{1}{3} = \frac{1}{5}$$

$$\begin{array}{rcl} 33 \times 5 & = & 165 \\ 45 \times 1 & = & 45 \\ \hline 45 \times 5 & = & 225 \end{array}$$

Then $\frac{165}{225} - \frac{45}{225} = \frac{120}{225}$ the Answer

From $\frac{19}{21}$ take $\frac{1}{7}$ of $\frac{2}{3}$

$$\frac{1}{7} \times \frac{2}{3} = \frac{2}{21}$$

$$\begin{array}{rcl} 19 \times 21 & = & 399 \\ 21 \times 2 & = & 42 \\ \hline 21 \times 21 & = & 420 \end{array}$$

Then $\frac{399}{420} - \frac{42}{420} = \frac{357}{420}$ the Answer

From $64\frac{1}{4}$ take $\frac{2}{3}$ of $\frac{3}{4}$

$$64\frac{1}{4} \qquad \frac{2}{3} \times \frac{1}{\cancel{3}} \times \frac{\cancel{1}}{4} = \frac{1}{2}$$
$$\cancel{4}$$
$$257$$
$$-1$$
$$\overline{\quad}$$
$$2$$

$$257 \times 2 = 514$$
$$4 \times 1 = 1$$
$$\overline{4 \times 2 = 8}$$

Then $\frac{514}{8}$ $\frac{1}{8}$ $\frac{513}{8}$ $63\frac{1}{4}$ the answer

From $15\frac{1}{8}$ take $12\frac{7}{40}$

$$15\frac{1}{8} \qquad 12\frac{7}{40}$$
$$\overline{\quad}$$
$$121 \qquad 487$$
$$5 \qquad 40$$
$$\overline{\quad} \qquad \overline{\quad}$$

$$121 \times 40 = 4840$$
$$487 \times 8 = 3896$$
$$\overline{40 \times 8 = 321}$$

Then $\frac{4944}{320} - \frac{3896}{320} = \frac{944}{320} = 2\frac{304}{320}$

The answer

1. From $\frac{3}{8}$ of a pound take $\frac{3}{5}$ of a shilling

$\frac{3}{8} \times \frac{20}{1} = \frac{60}{8} = \frac{15}{2}$ = s. d.
1 " 6 1/2
1 1/2
1 1 " 1 1/2 c Answer

2. From $1\frac{2}{3}$ take $\frac{2}{3}$ of $1\frac{1}{2}$ d

$1\frac{2}{3} = \frac{5}{3}$ $\quad 1\frac{1}{2} = \frac{3}{2}$

$\frac{15}{2} \times \frac{1}{3} = \frac{30}{6}$

$\frac{5}{30} \times \frac{12}{1} = \frac{60}{6} = 10$ = s. d.
1 " 8
5
1 " 3 c Answer

3. What is the difference between $\frac{3}{4}$ of £ $1\frac{5}{24}$ and $\frac{5}{16}$ of a £ $\frac{133}{80}$

$\frac{29}{24} \times \frac{3}{4} = \frac{87}{192}$ $\quad \frac{113}{80} \times \frac{5}{16} = \frac{565}{1280}$

$\frac{87}{192} \times \frac{20}{1} = \frac{1740}{192} = \frac{435}{48}$ = £. s. d.
9 " 1 " 6 3/4
8 " 8 " 9 3/4 2/4
0 " 0 " 1 3/4 1/4 c Ans.

Subtract $\frac{5}{6}$ out from $\frac{4}{7}$ ton

$\frac{4}{7} \times \frac{20}{1} = \frac{80}{7}$

$\frac{5}{6} \times \frac{4}{1} = \frac{20}{6}$

cwt qr lb
11 . 1 . 21
5 . 2 . 14
16 . 3 . 7 Answer

From $\frac{2}{3}$ of 5 th hay subtract $\frac{5}{9}$ of $3\frac{1}{2}$ cwt

$\frac{2}{3} \times \frac{5}{1} = \frac{10}{3}$

$3\frac{1}{3}$
2
$\frac{1}{11}$

$\frac{3}{2} \times \frac{5}{9} = \frac{15}{18}$

$\frac{5}{18}$

tt oz dwt gr
3 . 4 . 0 . 0
1 . 18 . 19 $\frac{1}{3}$
3 . 2 . 1 . 2 $\frac{2}{3}$ Answer $\frac{1}{11}$

Subtract $\frac{131}{220}$ furlongs from $1\frac{5}{11}$ mile

$\frac{1}{220}$ $\frac{131}{220}$
$\frac{220}{131}$
$\frac{131}{220}$

$\frac{1}{11}$ $\frac{5}{11}$
$\frac{16}{11}$

$\frac{16}{11} \times \frac{1}{1} = \frac{16}{11}$

$\frac{1}{1} \times \frac{1}{1} = \frac{1}{1}$

mile fur yds
1 . 3 . 110
1 . 1 . 31
4 . 0 Answer $\frac{4}{11}$

MULTIPLICATION

Multiply $\frac{7}{9}$ by $\frac{2}{3}$

$\frac{7}{9} \times \frac{2}{3} = \frac{14}{27}$ the answer

Multiply $48\frac{2}{5}$ by $13\frac{3}{6}$

$48\frac{2}{5}$ $\quad$ $13\frac{3}{6}$

$\times 5$ $\quad$ $\times 6$

$241\frac{3}{5}$ $\quad$ 83

$241\frac{3}{5} \times 13\frac{3}{6} = \frac{1209}{5} \times \frac{83}{6} = \frac{100347}{30} = 6112\frac{27}{30}$ answer

Multiply 430 2/5 by 18 3/7

$$\frac{430\frac{2}{5}}{5} \qquad \frac{18\frac{3}{7}}{7}$$

$$2153 \qquad 129$$

$$\frac{2153}{5} \qquad \frac{129}{7}$$

$$430\frac{3}{5} \qquad 18\frac{3}{7}$$

Multiply 5 13 9 1/4 1/5 by 9/11 of 5

$$3 \quad 13 \quad 9\frac{1}{4}\frac{1}{5}$$

$$\frac{9}{11} \times \frac{5}{1} = \frac{45}{11}$$

$$\frac{3}{11} \qquad \frac{45}{11}$$

$$3 \quad 13 \quad 9\frac{1}{4}\frac{1}{5}$$

$$9$$

$$11$$

$$12$$

$$660$$

$$4$$

$$3603$$

$$5$$

$$18156$$

$$5$$

$$18156 \qquad 45 \qquad 18360$$

$$\frac{18156}{5} \qquad \frac{45}{11} \qquad \frac{18360}{55}$$

$$5 \quad 13 \quad 9\frac{1}{4}\frac{1}{5} \text{ of } \frac{9}{11}$$

c Multiply $5\frac{13}{44}$ miles by $11\frac{3}{98}$

$$\frac{5\ \ 13}{44\ \ 4}$$

$$\frac{111}{4\ 11}$$

$$\frac{11\ \ 3}{98}$$

$$\frac{429}{98} \times \frac{4}{7} = \frac{1716}{686}$$

$$\frac{1716}{686} \times \frac{11}{44} \qquad \frac{1\ 5\ 2\ 2\ 3\ 6}{3\ 0\ 1\ 8\ 4} = 8 \text{ m. } 2 \text{ fur. } 188\frac{4}{7} \text{ links}$$

5 Required the product in square feet of

14 ft 7 in by 8 ft 9 in

$$\frac{\text{ft.}\ \ \text{in.}}{14 \cdot 7}$$
$$\frac{12}{175}$$
$$12$$

$$\frac{\text{ft.}\ \ \text{in.}}{8 \cdot 9}$$
$$\frac{12}{163}$$
$$12$$

$$\frac{175}{12} \cdot \frac{163}{12} \qquad \frac{28375}{144} = 127\frac{29}{49} \text{ inches}$$

DIVISION

Divide $\frac{14}{27}$ by $\frac{5}{6}$

$\frac{14}{27} \quad \frac{5}{6} \quad \frac{14}{27} \quad \frac{6}{5} \quad \frac{84}{135} \quad \frac{28}{45}$ Ans. Answer

Divide $672\frac{2}{30}$ by $13\frac{5}{6}$

$1933\frac{24}{70}$

$\frac{70}{5534\frac{14}{70}}$

Divide $1933\frac{24}{70}$ by $18\frac{3}{7}$

$1933\frac{24}{70}$

$\frac{70}{5534\frac{14}{70}}$

$18\frac{3}{7}$

$\frac{7}{126}$

$5534\frac{14}{70} \quad \frac{126}{1} \quad 5534\frac{14}{70} \quad \frac{7}{129} \quad 2153\frac{3}{5} \quad 130\frac{3}{5}$

2153
4306
5

Divide 16 by 24

$\frac{1}{16}$ $\frac{1}{24}$ $\frac{16}{1}$ × $\frac{1}{24}$ $\frac{16}{24}$ $\frac{2}{3}$ the Answer

Divide $\frac{9}{16}$ by $4\frac{1}{2}$

$\frac{11}{2}$
$\frac{9}{1}$

$\frac{9}{16}$ $\frac{9}{1}$ $\frac{9}{16}$ × $\frac{2}{9}$ $\frac{1}{8}$ the Answer

6 Divide $\frac{441}{935}$ by $\frac{3}{11}$ of $\frac{10\frac{1}{2}}{15}$

$10\frac{1}{2}$
2
21
2
15
7

$\frac{11}{2}$ × $\frac{15}{7}$ $\frac{35}{11}$

$\frac{441}{935}$ · $\frac{35}{11}$ $\frac{441}{935}$ × $\frac{11}{35}$ $\frac{6174}{3725}$ $5\frac{1949}{6174}$
the Answer

Divide $9\frac{1}{6}$ by $\frac{1}{2}$ of 7

$9\frac{1}{6}$ $\quad$ $\frac{1}{2} \times \frac{7}{1}$ $\quad$ $\frac{7}{2}$

6

55

$\frac{55}{6} \quad \frac{7}{2} \quad \frac{55}{6} \quad \frac{2}{7} \quad \frac{110}{42} \quad 2\frac{26}{42}$ the answer

Divide $\frac{3}{5}$ by $\frac{2}{3}$ of $\frac{5}{4}$ of $\frac{5}{6}$

2 3 5 5

3 4 6 12

$\frac{3}{5} = \frac{5}{12} \quad \frac{3}{8} \quad \frac{5}{12} \quad \frac{36}{40} \quad \frac{9}{10}$ the answer

Divide $\frac{2}{3}$ of 16 by $\frac{3}{7}$ of $\frac{3}{4}$

2 16 32 3 3 15

3 1 3 7 4 28

$32 \quad \frac{15}{28} \quad 32 \quad \frac{28}{15} \quad \frac{896}{35} \quad 25\frac{21}{35}$ the answer

3 28 3 15 35

Divide £ $\frac{11213}{272}$ by $\frac{32}{5}$ of $1\frac{2}{3}$

$$\frac{32}{5} \times \frac{5}{3} = \frac{32}{3}$$

$$\frac{11213}{272} \div \frac{32}{3} = \frac{11213}{272} \times \frac{3}{32} = \frac{33639}{8640}$$

3 - 11 - 10 1/4 1/3 the answer

Divide 1s 4 1/2 d $\frac{5}{6}$ by $\frac{18}{5}$

$$\frac{2}{3} \times \frac{18}{5} = \frac{12}{5}$$

$$\frac{401}{6} \div \frac{12}{5} = \frac{401}{6} \times \frac{5}{12} = \frac{2005}{72} = 6\,3/4\ \frac{61}{72}$$ the answer

Divide 3 yds 14 15/16 by 7/15 of 1 1/2 in the fraction of a cut and value the quotion

yds 16
3 . 14 15/16
28
168
16
683
1085
7435
16

1 1/2
2
3
2

7/15 × 3/2 = 7/10

1143/16 ÷ 7/16 = 1143/16 × 16/7 = 249/16 ans qr 16
1 1 15 3/8

the answer

What must 1 yd 14 in 6 be multiplied by to produce 1 yd 17 in 9

1 yd 14 in 6
96
1534
12
15354
1116

1 yd 17 in 9
20
43
41
5253
1116

5253/240 ÷ 1534/240 = 5253/240 × 240/1534 = 5253/1534 = 1 3/6

the answer

RULE of THREE.

If $\frac{5}{6}$ yd cost $1-\frac{2}{3}$ what will $\frac{11}{12}$ yd cost

If $\underset{\frac{5}{6}}{\text{yd}} : \underset{\frac{2}{3}}{1} :: \underset{\frac{11}{12}}{\text{yds}} : \underset{\frac{22}{30}}{\text{s}}$

$\frac{2}{\cancel{6}} \times \frac{2}{3} \times \frac{11}{12} = \frac{22}{30} = 14.8^{d}$ the Answer

If $\frac{3}{4}$ of a yard of linen cost 7..3 what will $10\frac{1}{3}$ yards cost

$$\begin{array}{r} 7..3 \\ \hline 12 \\ \hline 87 \\ \hline 240 \end{array} \qquad \begin{array}{r} 10\frac{1}{3} \\ \hline 3 \\ \hline 31 \\ \hline 3 \end{array}$$

If $\underset{\frac{3}{4}}{\text{yd}} : \underset{87}{d} :: \underset{\frac{31}{3}}{\text{yds}} : \underset{\frac{8007}{180}}{d}$

$\frac{4}{3} \times \frac{87}{\cancel{240}} \times \frac{31}{3} = \frac{8007}{180} = 44..19..16^{h}$?

the Answer

If 5 ℔ cost $\frac{3}{4}$ $ how much will $\frac{8}{9}$ $ buy

If	$\frac{5}{3}$	℔	$	℔
	$\frac{4}{4}$	7	8	$\frac{28}{27}$
		8	6	

$\frac{4}{3} \cdot \frac{7}{8} \cdot \frac{8}{6}$ $\frac{28}{27} = 1\frac{1}{27}$ the Answer.

If 15 men can build a wall in $24\frac{1}{4}$ days

how many men can do the same in 194 days

$$24\frac{1}{4}$$
$$4$$
$$97$$
$$4$$

If	days	men	days	inc
	194	15	97	4656
	1	1	4	768

$\frac{1}{194} \cdot \frac{15}{1} \cdot \frac{97}{4} \cdot \frac{4656}{768}$ $6\frac{1}{16}$ the Answer

If $\frac{3}{4}$ of a yard of Holland cost $1\frac{1}{3}$ wha

will $12\frac{2}{3}$ lbs cost at the same rate

$$\frac{3}{4} \times \frac{4}{1} = \frac{3}{1} \quad \frac{38}{3} \times \frac{3}{1} = \frac{190}{3}$$

$$\begin{array}{cccc} \text{yr} & £ & \text{qr} & £ \\ \frac{3}{1} & \frac{1}{3} & \frac{190}{3} & \frac{190}{27} \end{array}$$

$\frac{1}{3} \times \frac{1}{3} \quad \frac{190}{3} \quad \frac{190}{27}$ £ s d / 7 . 0 . 8 3/4 3/9 . Answ

If $3\frac{1}{4}$ yards of cloth that is $1\frac{1}{3}$ yard wide b

sufficient to make a cloak how much that is

$\frac{4}{5}$ of a yard wide

$$\begin{array}{cc} 3\frac{1}{4} & 1\frac{1}{3} \\ \frac{13}{4} & \frac{4}{3} \\ 1\frac{3}{4} & \frac{6}{5} \\ 11 & \end{array}$$

$$\begin{array}{cccc} \text{yds} & \text{yds} & \text{yds} & \text{yds} \\ \frac{4}{5} & 13 & \frac{6}{5} & \frac{38}{10} \\ & 4 & & \end{array}$$

$\frac{3}{4} \quad \frac{13}{4} \quad \frac{6}{5} \quad \frac{38}{10} \quad 4\frac{3}{5}$ Ans. Answer

If 11½ yards of cloth cost 13s. 9d what will 48¼ yards cost at the same rate

yds	s	d	yds
11½	13	9	48¼
2	12		4
23	156		193
2	12		4
	240		

yds	s	yds	s
23	156	193	6477
2	240	4	12000

£	s	d
3	6	9 3/4 = cost

If 25? will pay for the carriage of 1 cwt 1lb 14¼ miles how far may 6? cwt be carried for the same money

m	cwt
14¼	6½
4	2
581	23
4	4

£	cwt	m	cwt	m
1	1	581	20	581
		4	4	20

$\frac{1}{1} \times \frac{581}{4} \times \frac{4}{20} = \frac{581}{20} = 22\frac{4}{20}$ the Answer

What is the value of 6 pieces of Irish cloth each $27\frac{3}{7}$ yards at $15\frac{5}{8}$s per yard

$$\frac{192}{7} \times \frac{4}{1} = \frac{768}{7}$$

$$15\frac{5}{8}$$

$$\frac{1}{1} : 15\frac{5}{8} :: \frac{768}{7} : 12000$$

$$\frac{1}{1} \times \frac{125}{8} \times \frac{96}{768} = \frac{12000}{1}$$

£ 12000 the Value of the 6 pieces

If a pound weight of meat cost 3d what will a hundred weight of meat cost and what is the hundred weight when a pound weight costs $2\frac{1}{2}$d

$$3 \cdot 6$$

$$12$$

$$6 \quad 6$$

$$12$$

$$2\frac{1}{2}$$

$$\frac{2}{5}$$

$$2$$

$$\frac{1}{1} : \frac{3}{2} :: \frac{112}{1} : \frac{66}{12} :: \frac{112}{1} : \frac{462}{30}$$

$$\frac{3}{2} \times \frac{66}{12} \times \frac{7}{1} = \frac{462}{30} = 15 : 1\frac{3}{4}\frac{1}{5}$$ the Answer

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